Medical Library
AUG 25 1943

HYGEIA
THE HEALTH MAGAZINE
OF THE AMERICAN MEDICAL ASSOCIATION

The Teacher's Role in Mental Hygiene
By Herman Jahr, M.D.

Uncle Sam Against Cancer

750,000 Unwanted Men

Inter-American Health Program

Care and Protection of Foods

Child Care Centers

September 1943 25c

I'm So-o

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hearing of invasion fronts, rationing, inflation, four freedoms, and all that sort of thing. My generation is somehow going to take care of itself. Look at me, for example. My parents, with the help of our doctor, are keeping me healthy and strong. They buy me a $50.00 War Bond every month (for $37.50—the foxy old traders!) so that when I'm 20 years old, I'll receive $800.00 a year for 10 years—that ought to give me a pretty good start. My Daddy and Mummy "planned it that way." I'll get along all right. That's why I feel so relaxed!

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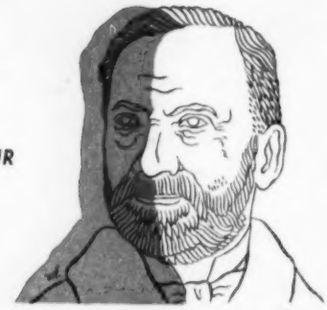

LOUIS PASTEUR 1822-1895

Founder of bacteriology

hygeia

THE HEALTH MAGAZINE

535 N. DEARBORN ST., CHICAGO 10, ILL.

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SEPTEMBER

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HYGEIA, The Health Magazine, is published monthly by the American Medical Association, 535 N. Dearborn Street, Chicago 10, Ill. Yearly subscription price, $2.50; for foreign postage add 75 cents. Single copies, 25 cents. Volume 21, Number 9. Entered as second-class matter March 21, 1923, at the postoffice at Chicago, Ill., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1,103 Act of October 3, 1917, authorized March 21, 1923. Printed in U. S. A.

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Medical soldiers crawl from foxhole to foxhole giving aid the instant they see a man hit. Called "Company Aid Men," they take the same risks as the men with guns, for they are constantly exposed to enemy fire. After this emergency treatment, Litter Bearers rapidly transport the patients to the Battalion Aid Station just behind the lines. Then, if necessary, a swift trip to the rear, where a mobile surgical unit takes over.

MIRACLES OF THE BATTLEFRONT

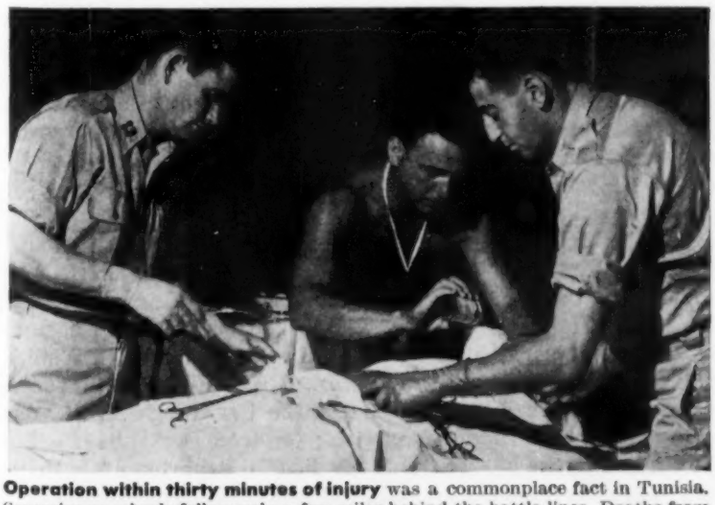
FROM HELL TO HELP IN TEN MINUTES

Often within ten minutes after an American soldier is injured at the front, he is under the care of a highly qualified Army medical officer.

Many times in this war major operations are performed within half an hour after wounds are received.

In past wars, agony often lasted for hours. Today on the battlefield, a tiny device—the morphine Syrette*—brings relief in seconds. Blacks out pain. Eases shock until the patient can be hospitalized. These single-dose, self-contained hypodermic units have won unqualified praise from medical officers.

In Tunisia, only 3% of the wounds suffered by U. S. soldiers proved fatal. No other country in the world surpasses the job America's Army and Navy medical services are doing to protect the health and lives of our fighting men.



Operation within thirty minutes of injury was a commonplace fact in Tunisia. Surgeries on wheels follow only a few miles behind the battle lines. Deaths from injury were cut to the astonishing low of 3 in 100 in the Tunisian campaign. Wounded have an approximately 400% better chance for recovery in this war—a magnificent tribute to the Army's Medical Department.

Pain-killing Syrettes*, "sulfa" drugs, and Human Serum Albumin Concentrated are examples of war products from the Squibb laboratories.

On the home front, Squibb research signifies a promise of a better, healthier tomorrow. One by one, modern medical science is removing the threats of death that mankind has feared for centuries. That's what Squibb research means to you and yours. A future you can believe in. *Reg. U. S. Pat. Off.

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WHO'S WHO IN hygeia

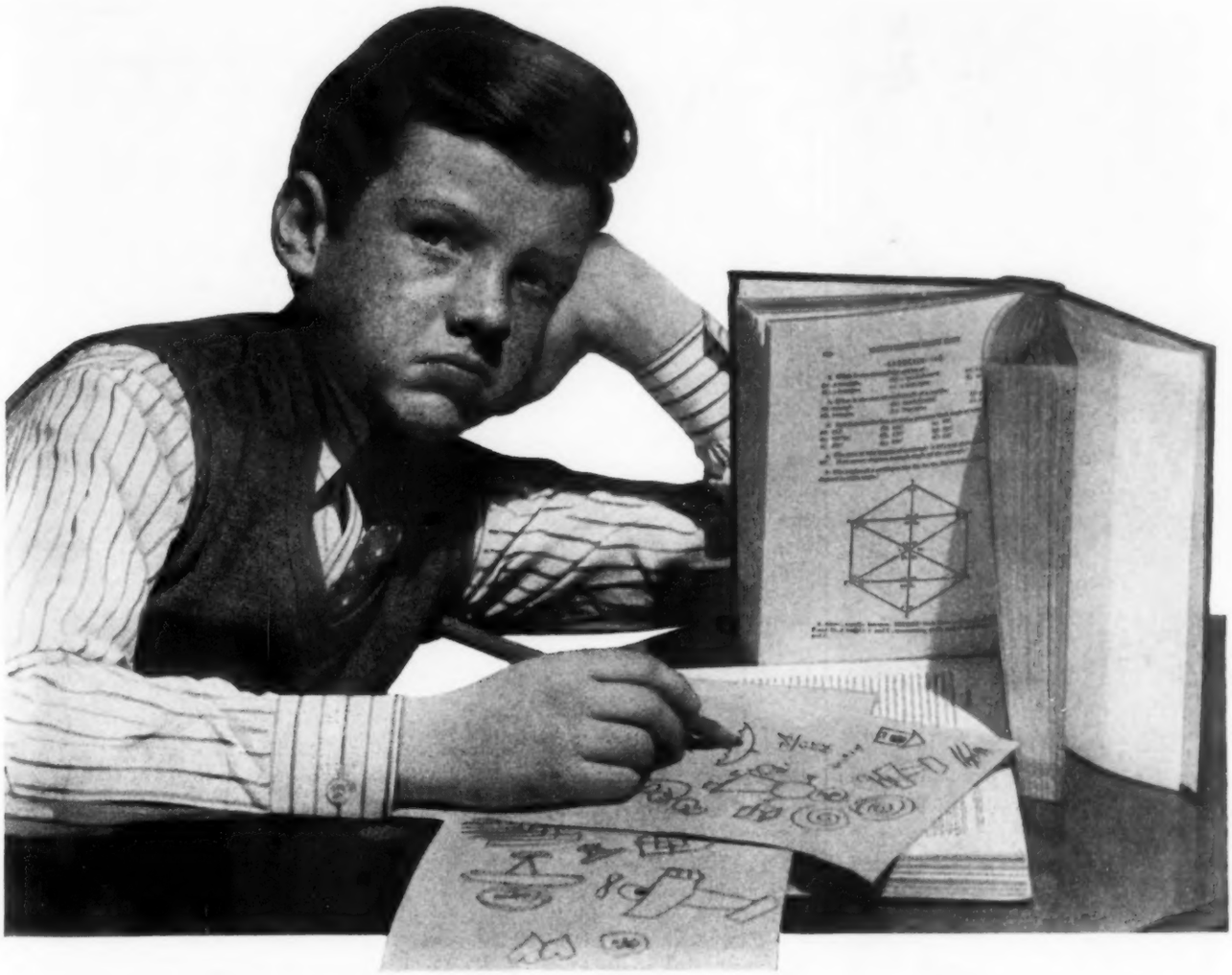
FRED LYMAN ADAIR, M.D., has been Mary C. Ryerson professor of obstetrics and gynecology and chairman of the department at the University of Chicago since 1929. A graduate of the University of Minnesota and Rush Medical College, Dr. Adair studied abroad for several years before returning to the University of Minnesota as professor of obstetrics and gynecology in 1926. He has served as chairman of the American Congress on Obstetrics and Gynecology, as chairman of the Joint Maternal Welfare Committee of Cook County, Illinois, and the American Committee on Maternal Welfare. He is also chief of staff at the Chicago Lying-In Hospital and consultant for the Children's Bureau, United States Department of Labor. He was a physician on the staff of the American Red Cross in France and Belgium during World War I, and during his career he has made many distinguished contributions to the literature of obstetrics and gynecology. Today, with many difficulties developing in artificial feeding of babies, his message on "Breast Feeding," page 686, is an important one for American mothers.

HELEN M. BROWN had a thorough preparation for her career as a child welfare worker. She majored in sociology at Oberlin College, Oberlin, O., then served three years as assistant to the head of the academic department at Sleighton Farm, a school for delinquent girls at Darling, Pa., attending the Summer Institute of Euthenics at Vassar College during her vacations. By this time, her interest was centered in nursery school work; accordingly, she studied in the kindergarten-primary department of the State Teachers College at Milwaukee, Wis., and, later, at Kansas State College and the State University of Iowa. Today, Mrs. Brown is a child welfare worker on the staff of the Iowa State Department of Social Welfare, working with courts, schools, nurses and families in an effort to insure proper care for the state's young charges.

Experience in teaching and welfare work and visits to schools and child welfare agencies in the United States and Europe have convinced Mrs. Brown that a child's speech is closely related to his social and emotional adjustment. She brings together a wealth of helpful knowledge for parents and teachers in "When the Child Begins to Speak," her article on page 676 of this issue of HYGEIA.

FREDERICK W. WILLIAMS, M.D., author of "Diabetic Gangrene," on page 646, is chief of the diabetic clinic at Morrisania City Hospital, New York City, and assistant attending physician for diabetes at the St. Francis, Lutheran and Union hospitals. He is vice president of the New York Diabetes Association and a member of the founding council of the American Diabetes Association. Dr. Williams was graduated from the New York University medical school in 1926 and was an intern and resident at Bellevue Hospital for the following two years. At present, he is president of the Bronx County Medical Society.

Other authors in this month's HYGEIA are: Herman M. Jahr, M.D., a pediatrician practicing in Omaha, Neb., and editor of the Nebraska State Medical Journal; G. G. Wetherill, M.D., director of health education for the San Diego, Calif., city schools; Mildred D. Shelley, editor of the health department bulletin, Middletown, N. Y.; Roscoe R. Spencer, M.D., director of the National Cancer Institute, Bethesda, Md.



Would you admit *YOUR* child is backward?

☆ Poor Arthur! He doodled instead of doing his lessons. His mind wandered while you spoke to him. He wasn't any good at games either, and the other children called him "dopey."

Even Arthur's mother was almost reconciled to the fact that her son was "backward."

But the simple truth was that *Arthur had defective vision.*

To play as other children did was a strain on his young eyes. He found it easier not to. Reading demanded concentration beyond his power. He found it easier to guess.

One day, a timely suggestion by his teacher proved the turning point in Arthur's young life. His eyes were examined . . . glasses were prescribed . . . and Arthur became a changed boy! His marks improved, his skill increased, his personality developed into that of a healthy, normal youngster.

Even children themselves often don't know when eyes are strained and overtaxed, while adults often blame the symptoms and results on other causes. The safest course is early and periodic eye examination. Have your children's eyes examined regularly. You'll be glad you did—it is a sound investment in their future.

WHAT ARE SOFT-LITE LENSES?

Soft-Lite Lenses, made by Bausch & Lomb, are scientifically designed to control the amount of light that reaches the eye, without altering color or visual sharpness. They neutralize glare, absorb excess light, protect eyes against eyestrain and fatigue. Soft-Lite Lenses are ground to individual prescriptions. They are prescribed for children as well as adults.

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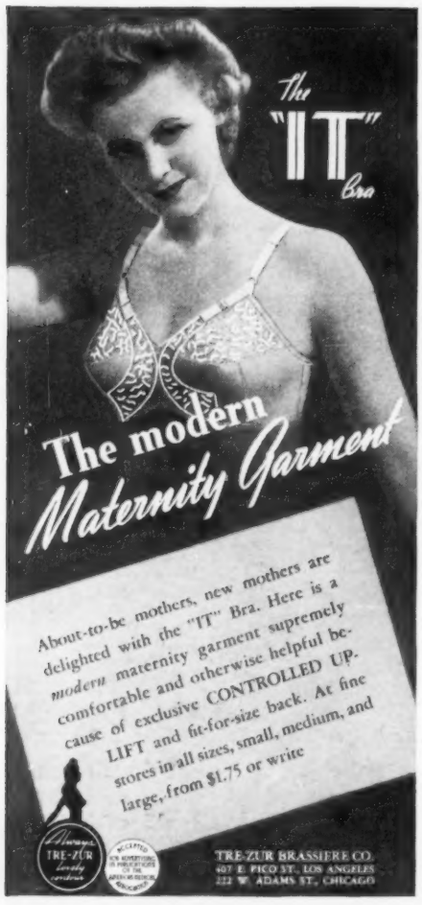


LETTERS FROM READERS

Poison Ivy

To the Editor:

In your June issue you have an article on poison ivy by R. H. Rulison, M.D. In going over the article carefully I found it very interesting and helpful, but it seemed to me that Dr. Rulison left out a very important item when he neglected to include a suggestion as to how poison ivy might be eliminated. We have found here on the shores of Lake George a remedy which seems to work effectively, and that is to spray the poison ivy plants with a solution of sodium chlorate in the proportion of one quart of crystals to three gallons of water. It should be handled carefully, because it is somewhat volatile—not seriously so, but caution should be exercised.

We have found that after the first spraying, the plant dies, but after a few weeks if life is still evident another spraying should be given. This second application usually kills the plant permanently. The grass or vegetation round about may die down for awhile, but it will not be permanently destroyed. This is the most effective remedy we have found.

CHARLES A. HERSCHLEB
Silver Bay, N. Y.

Teether Substitute

To the Editor:

May a mother of two half grown children disagree with the teether substitute suggested by the experts? *(See "Rattles, Pacifiers and Teethers," the editorial in* HYGEIA *for July 1943.)*

My first baby (prewar, of course) was provided with teething rings of plastic and rubber, but discarded them of his own accord for a nice, clean, old-fashioned clothespin, which he must have considered perfect. When analyzed, it is in many ways an improvement—it's easier to hold; hard, but gives a little; and as yet available.

Could this solution be presented to the experts, who probably have not reared children, and also suggested to frantic mothers?

MRS. FRANK M. HICKS
San Antonio, Texas

No slivers?—ED.

Better Patients—Better Parents

To the Editor:

I have found that charging the patron with a subscription to HYGEIA makes him a more satisfactory patron. I have found that a subscription to the parents of a new baby makes them more cooperative and understanding.

E. B. SWINDLER, M.D.
Stuttgart, Ark.

Antivivisection (cont.)

To the Editor:

I was glad to read in the July HYGEIA a most interesting article on antivivisection by Frederick M. Allen. It is excellent! He can write and knows what he is talking about—right to the point.

AGNES TAYLOR
Skytop, Pa.

Helps with Enlisted Men

To the Editor:

I find HYGEIA of invaluable help in teaching enlisted medical personnel in the Army.

J. NEWTON DUNN, CAPT., M. C.
356th Fighter Group
Groton, Conn.

Help for the Doctor's Wife

To the Editor:

A half year ago, my husband ordered HYGEIA for me. He hoped it would help me to understand his medical profession better. The first few issues I received I laid aside, lacking time and interest for them.

(Continued on page 687)

To everyone who has a Boy— or knows one!

THE WHOLE COUNTRY is being asked to buy War Bonds and help give our fighting men the planes, guns, bullets, and tanks they must have.

But there is another reason for buying War Bonds, one which you seldom hear.

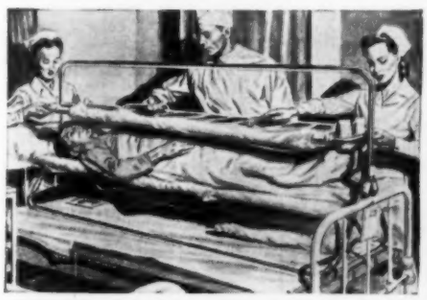
War Bonds will buy not only weapons to kill the enemy but also weapons to save our own boys' lives.

If your boy, or any boy, is injured in battle, he's going to get the best surgical care in the world; X-rays, sterile operating rooms, a staff of skilled surgeons, everything he'd get in the finest hospitals at home. This type of modern, mobile equipment costs a mint of money.

Such equipment will help the doctors and nurses give today's fighter a better chance of survival in this war than any fighter has ever had in any other war. And you can help Uncle Sam give your boy this chance by buying War Bonds.

So say to yourself, "Maybe I should dig even deeper into my pocket . . . maybe I should give even more than the 10 per cent of my earnings I'm already giving."

That boy of yours, or the boy you know, is willingly taking a chance to save the things we all believe in. Why not help that chance along?

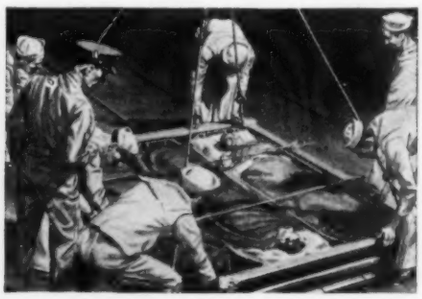


TRAINING AND MAINTAINING Navy nurses and pharmacist's mates takes many thousands of dollars. Approximately $66 per month is needed to house and feed each nurse. 42 civilians each investing $18.75 in a $25 War Bond will support a nurse for a year.

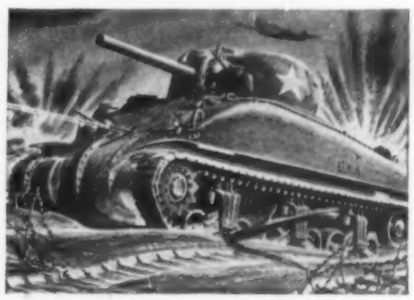
THIS ARMY REFRIGERATED TEST CHAMBER is part of the equipment the Army must have to help our flyers fly higher than the enemy. 645 civilians, each buying one $25 War Bond, could pay for the installation and accessories of this life-saving equipment.

THE WAND-LIKE ROD in the surgeon's hand is a metal locator. It first proved its worth at Pearl Harbor in finding hidden shell fragments. Buying 1856 $25 War Bonds will pay for 100 metal locators to save injured sailors' lives.

THESE MOBILE HOSPITALS bring medical and surgical care right up behind the lines. They save precious time and lives. Will you join just *one other civilian* and help Uncle Sam maintain just *one* mobile unit for *one* day by buying *one* $25 War Bond apiece?



THIS STOKES STRETCHER is a life-saving device for transporting severely injured men. The Navy uses hundreds of these stretchers. One person, buying just *two* $25 War Bonds and $14 worth of War Stamps, provides the Navy one Stokes stretcher. Are you that person?



TANK COMBAT IS TOUGH on men inside the tanks. Army doctors, aided by a $300,000 laboratory at Fort Knox, are studying how to help them stand up under tank combat conditions. 16,000 people each buying one $25 War Bond will pay for this laboratory.

You've done your bit—now do your best!

Boost your bond buying through the payroll savings plan

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The term "hypo-allergenic" means that the possibility of irritation has been reduced to a minimum through the omission of substances known to produce allergic reactions.

Your physician knows that some persons are abnormally sensitive to certain substances. They react, sometimes violently, even to minute amounts of that substance, be it food taken internally, a cosmetic or soap applied to the skin, or a powder or perfume breathed into the respiratory passages.

Sneezes, wheezes, watery eyes, red, runny noses, annoying hives, and even more serious skin affections—how mystifying that such untoward effects could come from the innocent application of powder or cream or rouge to enhance a lady's beauty.

To safeguard women against allergic irritation from cosmetics, Marcelle offers a complete line of beauty aids from which known allergens or allergy-causing substances are either omitted or reduced to tenable minimums. They are HYPO-ALLERGENIC. . .

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Coming in Hygeia

PHYSICAL TRAINING IN THE WAC

The WAC sets a high standard of physical fitness for its members, then sees that they achieve and maintain that standard. In a series of three articles starting next month, HYGEIA readers will learn how this is done—and may benefit from the instruction and advice of WAC physical training leaders.

WHY DO BABIES CRY?

By Victoria Hinton

When baby cries—there's always a reason. What all the reasons are—and what to do about them—are set forth in Mrs. Hinton's sensible, good natured article on making the baby behave.

MADE TO ORDER CROWNING GLORY

By William Hardwick

Today, girls with short, sparse or unattractive hair can enjoy all the satisfactions of elaborate coiffures and upswept glamour. Mr. Hardwick tells how it's done.

PSYCHOLOGISTS: PROFESSIONAL OR CHARLATAN

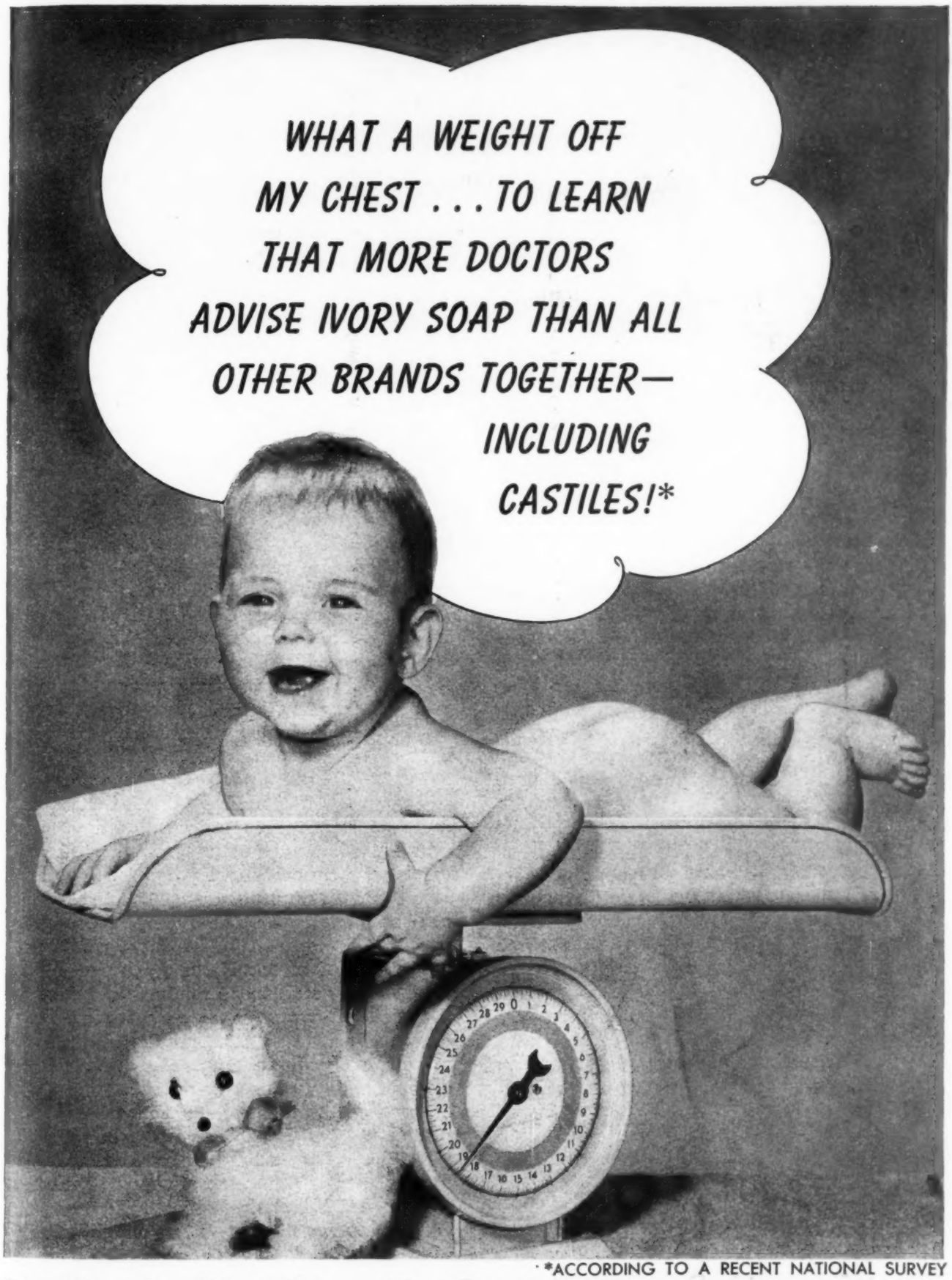
By Douglas Lawson

Some day, you may need the services of a psychologist for a member of your family. The field is full of quacks and fakers, but if you use Mr. Lawson's standards for judgment, you'll never be duped.

ALCOHOLICS AND THEIR TREATMENT

By Joseph Thimann, M.D.

Comprehensive, up to date information on the treatment of an old, difficult problem which, contrary to the belief of many, is always a medical problem.



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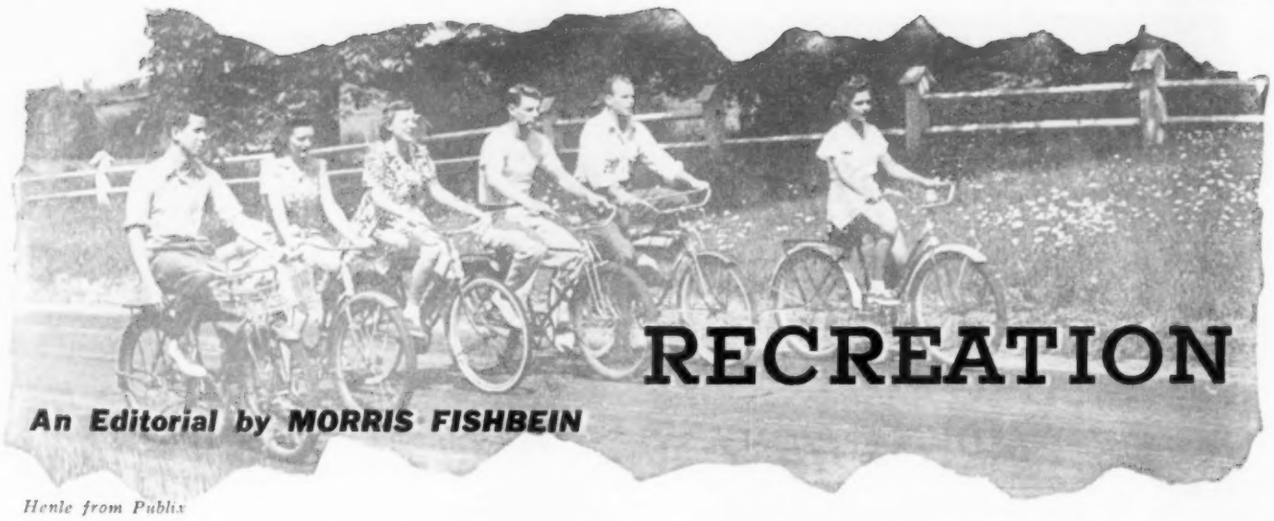


RECREATION

An Editorial by MORRIS FISHBEIN

Henle from Publix

IN PRESENTING to the American people a comprehensive outline of recreation, Paul V. McNutt, Chairman of the War Manpower Commission, says: "There is a direct connection between the speed and efficiency of war production and the kind of recreation a town provides for its war workers." Any one desiring a complete report on recreation may obtain it by writing to the Division of Recreation, Federal Security Agency, Social Security Building, Washington 25, D. C., asking for the report which is called "Spare Time—A War Asset for War Workers." There is also available a book with suggestions for organizing a war recreation committee which is to have responsibility for community-wide coordinating and planning. This booklet is called "Recreation in Wartime—A Handbook for Recreation Committees of Local Defense Councils."

More than twenty years ago a report was published called "Recent Economic Changes in the United States," in which a distinguished committee headed by Mr. Herbert Hoover emphasized that one of the problems of the future for this country would be the utilization of leisure time. We were moving rapidly toward a six-hour day and a five-day week. Now the intensive drive of war production has intensified the need for recreation without making available much leisure time. Stuart Chase estimated that the people of the United States spend at least 22 billion dollars each year on recreation, including 5 billion for motoring, 3 billion for recreational eating, 2 billion for vacations, 2 billion for motion pictures, 1 billion for fiction and 1 billion for radio. The extent to which Americans patronize sports, which incidentally are not included in these figures, is indicated by 40 million attendance annually at baseball, 10 million attendance at football and 5 million at golfing events. Not all of these activities are, however, really recreational. True recreation demands that the time be spent in an activity which is beneficial to either mental or physical health.

One of the most significant activities of recent years has been the development of the Industrial Recreation Association of American Industry. This organization includes those who are concerned with agencies developed by industry in order to guide workers in their recreational activities. An investigation made by Diehl and Eastwood showed that 45 per cent of the companies that they investigated spent $2,000 or less per year on recreation for workers, notwithstanding the fact that there is a direct relationship between diminution of accidents that may occur in a plant and the extent of the recreational program. Moreover, it is clear that the money spent on recreation need not be great. The average weekly cost per employee among all institutions investigated did not exceed 14 cents per week.

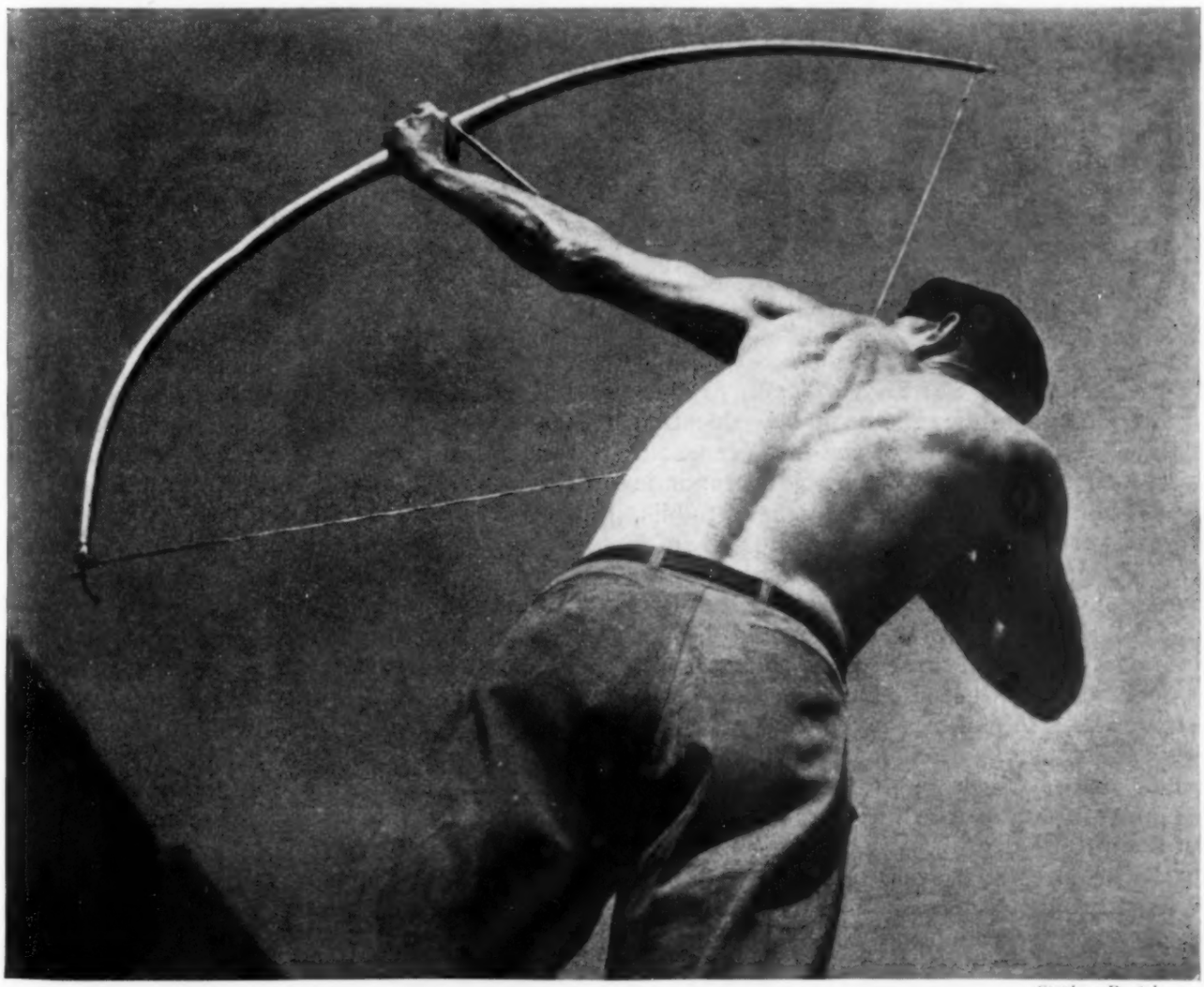
The new guide to recreation developed by the Federal Security Agency indicates the extent to which various groups in the community, such as public agencies, private social agencies, labor unions, war plants, commercial enterprises, churches and similar groups, may participate. Recreational programs include social activities, such as community sings, dances, picnics and celebrations; activities for women which include fashion and personality clinics, cooking schools and nutritional classes, knitting and sewing clubs, and a wide variety of amusements for children.

Important for physical health are, of course, the games and sports. These need to be

directed by persons familiar with the nature of various sports and their contribution to physical health. Many sports, such as softball, volleyball, bowling, table tennis and fly casting, are recreational without doing much for improvement of physical fitness. Others, which represent body contact sports, are definitely planned to improve balance, flexibility, agility, strength and endurance. Physical fitness implies that the heart, lungs, teeth, eyes and other tissues of the body are physically sound and capable of working efficiently. It implies fitness for the performance of hard muscular work, including sudden bursts of energy and long sustained effort. Training makes skill in the application of physical effort. Drs. Gallagher and Brouha of Yale University have analyzed the contribution of various sports to physical fitness and indicated those which are wholly recreational and those which have value in physical conditioning.

Music, arts and crafts are among the most important of all recreational activities. The development of choral groups, orchestras and bands, of photography clubs, dramatic groups, hobby groups, dancing classes and literary clubs may be most conducive to improving the happiness of the worker on the job.

Today workers in industry include practically every age group in the population and persons in every stage of physical fitness from those seriously handicapped by disease or disability to the trained athlete. On the leader in the field of industrial recreation rests the responsibility for adapting the recreational activity to the mental and physical condition of the worker and to his personal needs. In his work the industrial recreation leader cooperates with the personnel manager, the physician in charge of industrial health and with the leaders of industry and of the workers. We are learning much about recreation. In times of war it is so important in relation to absenteeism, maximum output and civilian morale that it cannot be left to chance and haphazard leadership.



Stephen Deutch

By HERMAN JAHR

THE PRESENT SYSTEM of mass production in our public schools makes education available to millions of children for whom private instruction would be an economic impossibility. Among these millions of pupils, however, are many thousands who, in spite of a normal mentality, find it difficult and at times impossible to keep pace with their fellows. Their early years are often marred by an emotional pattern of anxiety and fear, a result of poor adjustment to the curriculum.

In dealing with the many phases of childhood, the doctor is often faced with problems the origin of which point to the classroom. A child of 7 years who has a good mentality but no conception of drawing becomes pale and vomits her breakfast every morning. Another youngster of 8 whose spelling is below par comes home trembling and states in all truthfulness, "I feel too sick to eat lunch." A charming girl of 11 years brings home an arithmetic test showing two correct answers out of ten. She smiles tearfully as she hands the paper to her mother, throws herself on the bed and sobs, "I know I'm dumb, what's the use of living?" These are by no means isolated cases. Every doctor sees them by the score every year.

Children mature intellectually at different ages, and comprehension and speed of learning vary widely with the individual. The normal mental level cannot be represented by an imaginary line above which are the geniuses and below it the mental defectives. A youngster with a normal mentality may be expected to carry on intellectual processes which the majority of children of corresponding ages are capable of performing. However, the rate at which learning certain subjects is achieved cannot be predicted for any one child in the early grades in school.

First grade children study word recognition in small groups. Successful teachers recognize varying abilities in children

The measure of intelligence as represented by the "I. Q." is often taken too seriously. Too many human elements and traits enter into the tests to make them infallible. Not infrequently a report of the intelligence quotient on a given child tends to confuse teachers and parents alike. The effects on the youngster under such circumstances are too obvious to require elaboration. This does not mean that mental tests are uniformly valueless. Indeed, properly administered and soundly interpreted, they may be of inestimable service. The logical deduction is to receive them with respect but to fortify their acceptance with reservation.

Recent experiments in psychology reveal that the intelligence quotient of an individual is not, as is generally believed, permanently fixed. It fluctuates with the child's facilities for security. Children from a poor environment placed in attractive surroundings soon begin to show higher mental ratings. The converse is also true; children from good homes placed under poor surroundings show a downward tendency in their intellectual standing. These studies were made on preschool children. It is reasonable to conclude that a youngster unadjusted to his school curriculum may yield an I. Q. which at the time of testing does not represent his true mental capacity.

A young man who recently graduated with honors from one of our great eastern universities illustrates this point. In the first three grades of elementary school he was considered mentally retarded. His I. Q. at the age of 8 years was 86. The boy was taken out of school and placed under a private tutor until he was ready for the seventh grade, when he reentered public school with an I. Q. of 110. He suffered through the last two grades, but in high school he became an outstanding pupil. The explanation of this strange phenomenon is summed up briefly by the young man himself, who now has a bachelor's degree, cum laude: "The teachers had no time for me, and I guess I was just slow in catching on."

The modern classroom is so crowded that few teachers have the time and fewer yet the energy to devote to the special needs of the individual pupil. This is a most unfortunate condition. Children spend the greater part of their day in school. Those in the lower grades, particularly, could benefit greatly from the association with and encouragement of the person who, next to the *(Continued on page 680)*

Lt. Col. Edward A. Zimmerman, M. C., director of training (left), and Lt. Col. Floyd L. Wergeland, M. C., executive officer of Camp Barkeley

Medical Men and Officers of the Medical Department

By MORRIS FISHBEIN

ON THE FLAT LAND near Abilene, Texas, in the midst of the mesquite and cedar wood, sprawled over miles and miles, lies Camp Barkeley, the largest school devoted to the training of medical department enlisted men and medical administrative officers ever established by an Army. The students as I saw them in their classes were serious, intent, earnest; the teachers were enthusiastic and inspiring. Over and over again I heard the phrases: "A mistake may cost a life!" "Remember this fact— *(Continued on page 672)*

Left: Company aid man, who carries drugs, bandages and other equipment, gives first aid to a "casualty." Above: Student technicians work on a "broken leg"

Pictures on these and the following two pages were taken by the Army Signal Corps at the 56th Medical Training Battalion bivouac near Camp Barkeley. The men seen in these pictures were civilians a little more than two months ago

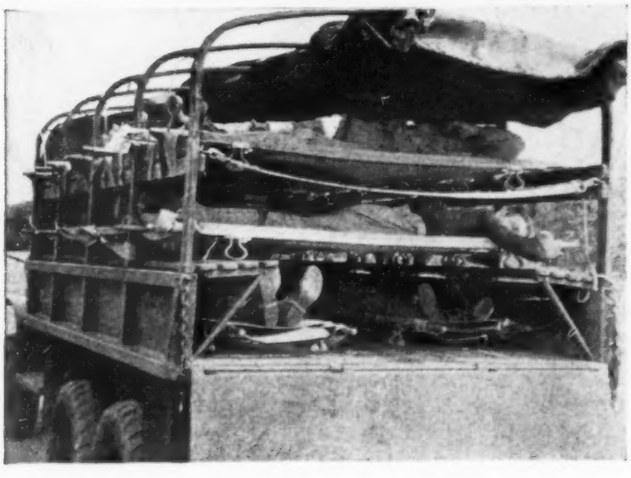
In summer, a blanket is used as a canopy to increase the density of the shade over patients and operators

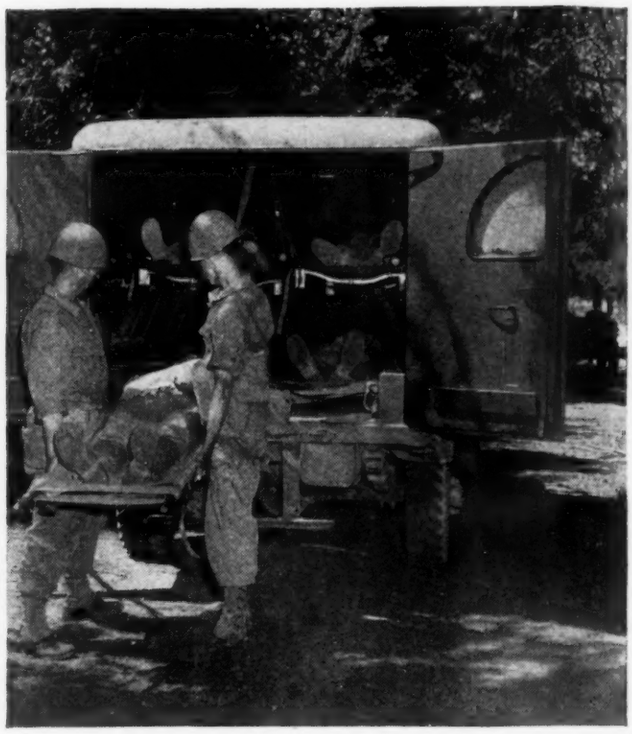
Station is set up in dry creek bed to provide defilade and concealment. Equipment for emergency procedures is provided

After the casualty is given first aid by the company aid man, litter bearers carry him to the battalion aid station, where medical record starts

Careful to keep concealed and bent over to avoid gunfire, a litter bearer team moves casualty to battalion aid station. This is back-breaking work

Ambulatory wounded — able to walk — may come into the battalion aid station under their own power. Above: Clerk registers such a case





Trainees learn proper method for unloading ambulance. Note mud smeared on rear windows to provide camouflage

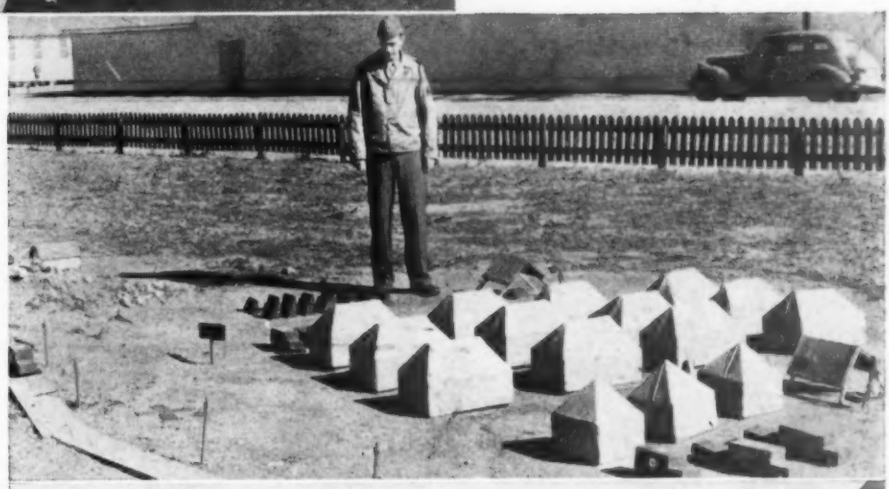
Left: Trainee waits at ambulance post during training as ambulance chauffeur. Headlights and body of ambulance are painted or mud-daubed, canvas screen hides windshield to prevent revealing glare

Clearing station tentage is pitched under heavy foliage and camouflaged

Left: Twelve litters are loaded into 2½ ton Army truck. Ambulances are not always available, so medical soldiers must learn to use other means

Inside of operating tent at the clearing station. The operating tent has full facilities for surgical procedures of emergency character

Clearing station's evacuation tent. Ward tent holds Army cots from which soldiers can be evacuated by ambulance or airplane to hospitals in rear



Model battlefield, one block long, gives trainees a complete picture of the medical evacuation system. All installations are included

Group of trainees learns technic of artificial respiration. First aid classes are an important part of the training program for medical soldiers

HEALTH PROBLEMS IN CHILD CARE

By G. G. WETHERILL

THE HAND that holds the pneumatic riveter cannot rock the cradle—at the same time. With an increasing number of mothers entering defense plants each day in the area of San Diego, Calif., plans have been laid for child care nurseries to be operated by the city's public school plants. While there have been nursery schools operated by W. P. A., with school supervision, these were intended primarily for older children, so this is the first time a widespread program has been developed for day care of preschool children. These centers, which are intended exclusively for the children of working mothers, have arisen from a need brought about by the emergency existing due to war conditions.

In 1940, this city of homes had a population of less than 200,000. When workers were needed for defense plants in the vicinity, another 200,000 were added to the civilian population. Most of this influx came from the southwestern states: Arizona, New Mexico, Texas and Oklahoma.

That their cultural and hygienic backgrounds were varied is obvious. Farming district mothers just didn't realize that the hazards of leaving Junior or Jane alone at home while they answered the call to help turn out bombers were greater than leaving them at home while they helped harvest crops or plant them.

Thus a great number of preschool children were left at home all day alone or dumped on the school playgrounds at 7:00 a. m. School age youngsters were coming to school without breakfast, and others were kept home from school to play nursemaid to younger children. A recent survey throughout the San Diego city schools showed from 40 per cent to 60 per cent of the mothers working, with a consequent dearth of parental guidance and an alarming lack of care and supervision of younger children.

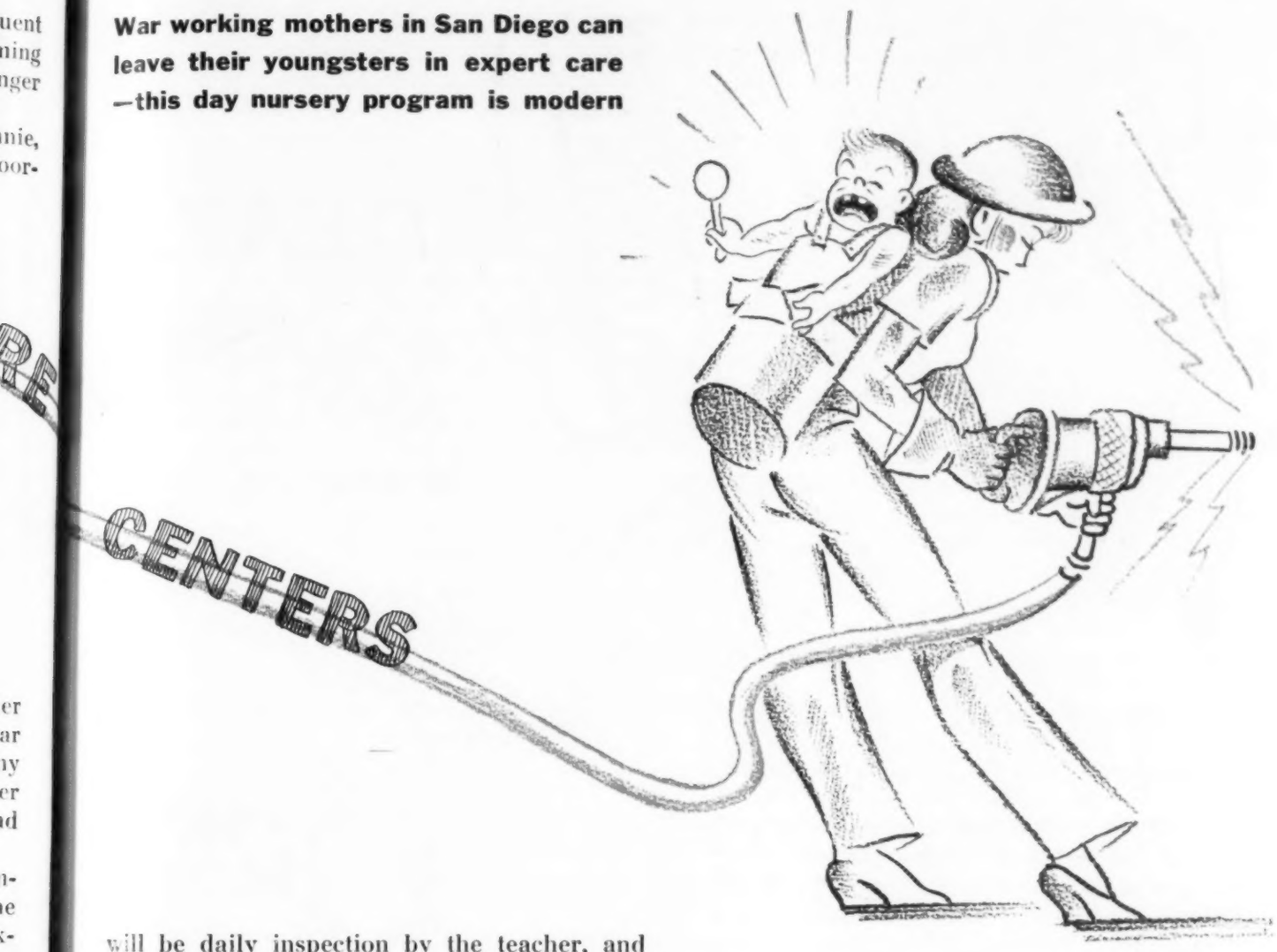
Typical examples are the cases of Johnnie, who was locked out and had to sit on the doorstep chilly afternoons waiting for his mother to come home from work; and that of 5 year old Carol Ann, whose mother didn't see any reason for putting her in a nursery center when "she could fix her own supper of bread and milk."

There was the further problem which concerned children who were actually sick. The question arose: When both parents are working in defense plants, who will care for the sick child? This led to other problems, such as: What is the first responsibility of a working mother—caring for a sick child or building bombers? If the question was answered in favor of the youngster, the result was the specter of absenteeism holding up the production line.

Under the supervision of Dr. Will C. Crawford, superintendent of schools, a program was built to meet the needs of these children. It was first of all a care program, with education of these preschool children a secondary consideration. In children of this age, nutrition is of first importance. Therefore, extensive plans were made for properly served, well balanced meals, the correction of poor eating habits and rest for malnourished children.

Special needs of individual youngsters will be given consideration in the nursery program. All children will be inspected periodically by a physician, and a health inspection will be given at frequent intervals by a nurse. There

War working mothers in San Diego can leave their youngsters in expert care —this day nursery program is modern



will be daily inspection by the teacher, and health records of all will be kept. This will include medical examination, vision and hearing tests, height and weight progress and dental inspections. There will be first aid service for all children and twenty-four hour a day care for the sick. Part of the medical program consists of immunizing all youngsters to avert epidemics of communicable diseases, and immediate isolation of children who contract any disease. Through cooperation with their parents and other health agencies, correction of physical defects will be undertaken.

One of the outstanding aims will be the establishment of good living routines and good health habits. By healthful living, a child is given a constructive slant on the value of a cheerful, sanitary environment, which should stand him in good stead throughout the rest of his life.

The nursery program will result in no additional taxation, for the mothers will pay fees based on their ability to pay. This in turn is established on the basis of the family income and the number of dependent children. A maximum fee is based on the unit cost of operation of $1 a day. The nurseries will be open six days a week and will be operated by professionally trained people with a minimum of two years' university training. The fee structure is so set up that parents will pay 70 per cent of the cost.

It should be noted that a particular effort is made not to undermine private nurseries, which usually charge $1 a day. This program is merely a supplement to handle children who would not otherwise be cared for. It is not meant as a substitute for the home, and no systematic effort will be made to train these children mentally—but through story hours, music periods, play and such activities as finger painting the children will get an orientation to school and will have proper care while the mother is at work. It is not planned to continue these projects after the war. This is an answer to a war problem.

WINGED DEATH

By MILDRED D. SHELLEY

IN THE BATTLES our medical and public health armies are waging against disease—so there'll be enough of us left to fight for our democratic way of life—there is no enemy with weightier striking power than a gossamer-winged insect, the anopheles mosquito. Her malaria victims among us number millions now and, although enormous strength is mobilized against her, World War II may leave this country with countless more cases and postpone by long and difficult years the goal of beating this particular kind of winged death. The United States Public Health Service estimates that we have 2,000,000 chronic cases of malaria—not so many proportionately when tallied against some 800,000,000 (peacetime figures) for the entire world, but what our toll will be when this global war is over may become an explanation in history books of why we didn't win sooner.

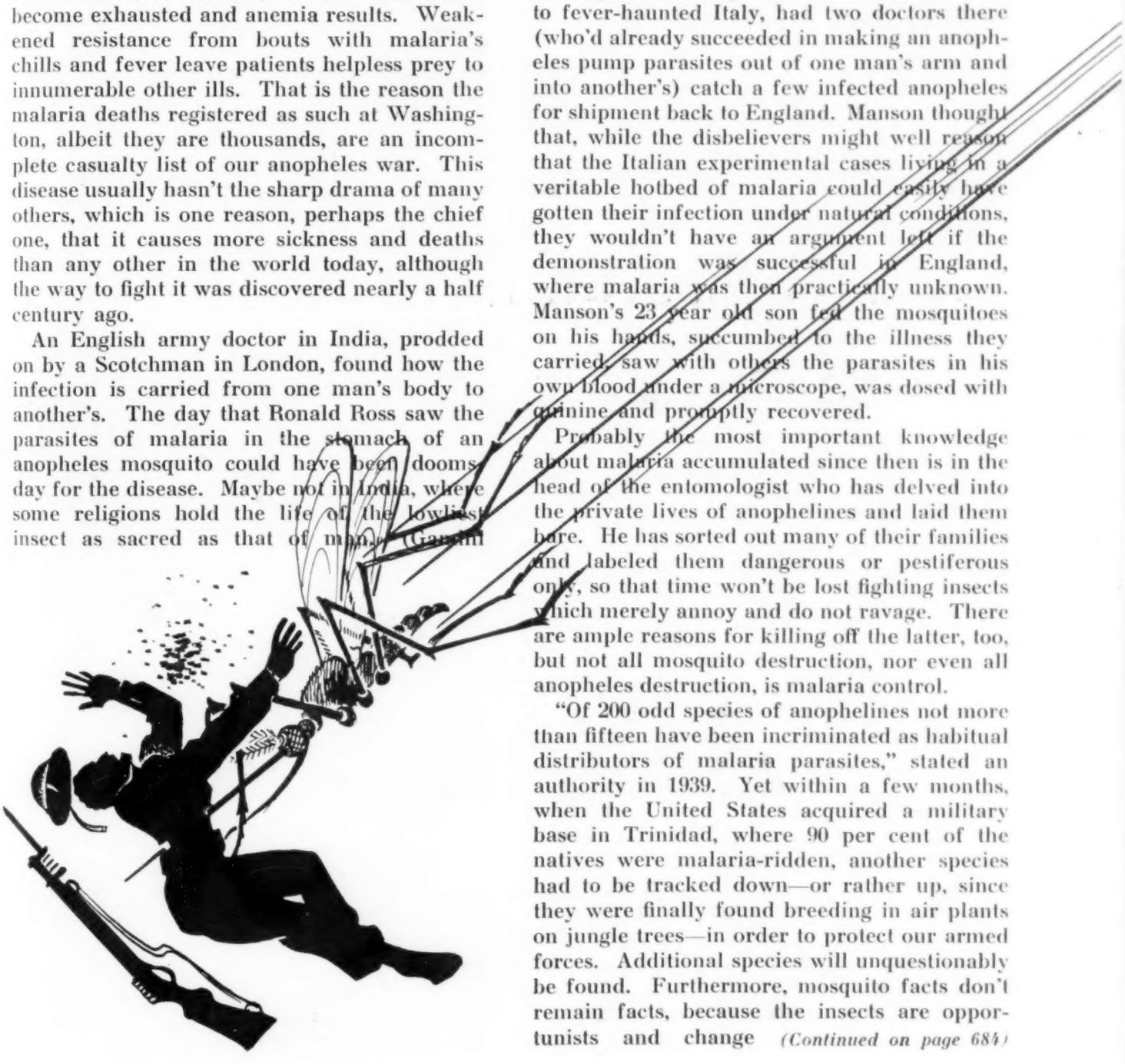
Our military men have plunged into the most heavily infected malarious holes on earth. Newspaper correspondents witnessing our bitter defeat at Bataan wrote that before the fall, 80 per cent of our troops had malaria. The United States Army Medical Corps reported some time ago that the majority of Japanese prisoners taken had malaria. Palestine was recently announced the "only country in its part of the world where malaria is not a large cause of illness among troops." The Holy Land wasn't miraculously spared from the winged death. An antimosquito campaign began there in 1912; it hadn't operated long enough to protect troops in World War I but is evidently in control now.

Among our lend lease projects none has been of more significance than Surgeon General Thomas Parran's mission of malaria specialists to China. Malaria, more effectively than any other disease, sabotages engineering jobs in tropical countries, and in desolate Yunnan Province it was crippling manpower in the building of a railroad, China's new life-line. To assist our commission the Chinese government provided physicians, nurses, sanitary engineers and 800 laborers to help save the 250,000 railroad builders. Over a million dollars' worth of medical and mosquito-fighting supplies were needed. Each worker had to be dosed with antimalaria drugs.

An American soldier on Bataan, stricken down by insects instead of bullets, wept on discovering he'd nearly shot his buddy during

a malaria delirium, and always thereafter unloaded his .45 when he felt a headache coming on. Not all malaria cases are that dramatic, but they would be if they could be seen in the victim's blood stream. Movies, the first ever taken of actual disease in the circulating blood of a living animal, have shown how the winged death kills. It changes the blood to sludge, dams the arteries and veins, overworks the heart in a desperate fight to rush more blood to the blockade, and even though the crisis is successfully met the patient's battle is not won, because oxygen starvation often follows, the red blood cells become exhausted and anemia results. Weakened resistance from bouts with malaria's chills and fever leave patients helpless prey to innumerable other ills. That is the reason the malaria deaths registered as such at Washington, albeit they are thousands, are an incomplete casualty list of our anopheles war. This disease usually hasn't the sharp drama of many others, which is one reason, perhaps the chief one, that it causes more sickness and deaths than any other in the world today, although the way to fight it was discovered nearly a half century ago.

An English army doctor in India, prodded on by a Scotchman in London, found how the infection is carried from one man's body to another's. The day that Ronald Ross saw the parasites of malaria in the stomach of an anopheles mosquito could have been doomsday for the disease. Maybe not in India, where some religions hold the life of the lowliest insect as sacred as that of man. (Gandhi asserts that modern medicine is sorcery; he prefers the destruction of his people to the destruction of the mosquito. About half of India's 350,000,000 population are infected with malaria and 1,000,000 die of it annually.) But in countries where people were willing to be shown and had no scruples about annihilating the insect, there was no longer any necessity for the winged death—except the necessity of ignorance or poverty or both.



William Manson, Ross' Scotch prodder, contrived as clever a trick as ever Pasteur picked out of his pocket to convince a skeptical public. He dispatched a tiny, wooden, ventilated "hut" to fever-haunted Italy, had two doctors there (who'd already succeeded in making an anopheles pump parasites out of one man's arm and into another's) catch a few infected anopheles for shipment back to England. Manson thought that, while the disbelievers might well reason that the Italian experimental cases living in a veritable hotbed of malaria could easily have gotten their infection under natural conditions, they wouldn't have an argument left if the demonstration was successful in England, where malaria was then practically unknown. Manson's 23 year old son fed the mosquitoes on his hands, succumbed to the illness they carried, saw with others the parasites in his own blood under a microscope, was dosed with quinine and promptly recovered.

Probably the most important knowledge about malaria accumulated since then is in the head of the entomologist who has delved into the private lives of anophelines and laid them bare. He has sorted out many of their families and labeled them dangerous or pestiferous only, so that time won't be lost fighting insects which merely annoy and do not ravage. There are ample reasons for killing off the latter, too, but not all mosquito destruction, nor even all anopheles destruction, is malaria control.

"Of 200 odd species of anophelines not more than fifteen have been incriminated as habitual distributors of malaria parasites," stated an authority in 1939. Yet within a few months, when the United States acquired a military base in Trinidad, where 90 per cent of the natives were malaria-ridden, another species had to be tracked down—or rather up, since they were finally found breeding in air plants on jungle trees—in order to protect our armed forces. Additional species will unquestionably be found. Furthermore, mosquito facts don't remain facts, because the insects are opportunists and change *(Continued on page 684)*

UNCLE SAM AGAINST Cancer

II
THE NATIONAL CANCER INSTITUTE

By R. R. SPENCER

SECOND among that insidious sixth column of fatal human maladies stands cancer. This killer has been boring from within so long that we somehow seem to take it for granted, despite the fact that cancer destroys 158,000 of its victims each year in the United States. There are now about a half million people suffering from cancer. This is a casualty list not to be taken lightly when it is realized that the great majority of the victims are drawn from the age group (35 to 60 years) whose experience, maturity and earning power is of such inestimable value to our country.

The Army and Navy must bend every effort to keep as many men behind as many guns as many hours as possible. To the United States Public Health Service falls the duty of organizing and directing our national efforts toward the maintenance of the health, welfare and morale of our industrial and civilian manpower—the men and women behind the men behind the guns. As every one knows, the ratio of the industrial army to the actual combat forces is about twenty to one.

Not so much among the military forces as among industrial groups does cancer slowly but surely ferret out its victims. However, the young soldiers today will be veterans twenty years from now and will then be rapidly coming into the cancer age. Even at the present time, the United States Veterans' Administration admits to its hospitals 600 to 700 new cancer patients each month! These cases are drawn from the four million veterans of the last war. Very likely in twenty years we will have eight to ten million men and women veterans of the present war. About one in ten will develop cancer.

The solution of the cancer problem in all its aspects—the education of the public, the education of physicians in better methods of diagnosis and treatment, the improvement and expansion of cancer clinics, the provision for continuous research into its cause, cure and prevention—is certainly not a one man job. It cannot be left to the individual general practitioner, although until now he has been considered the backbone of the medical profession.

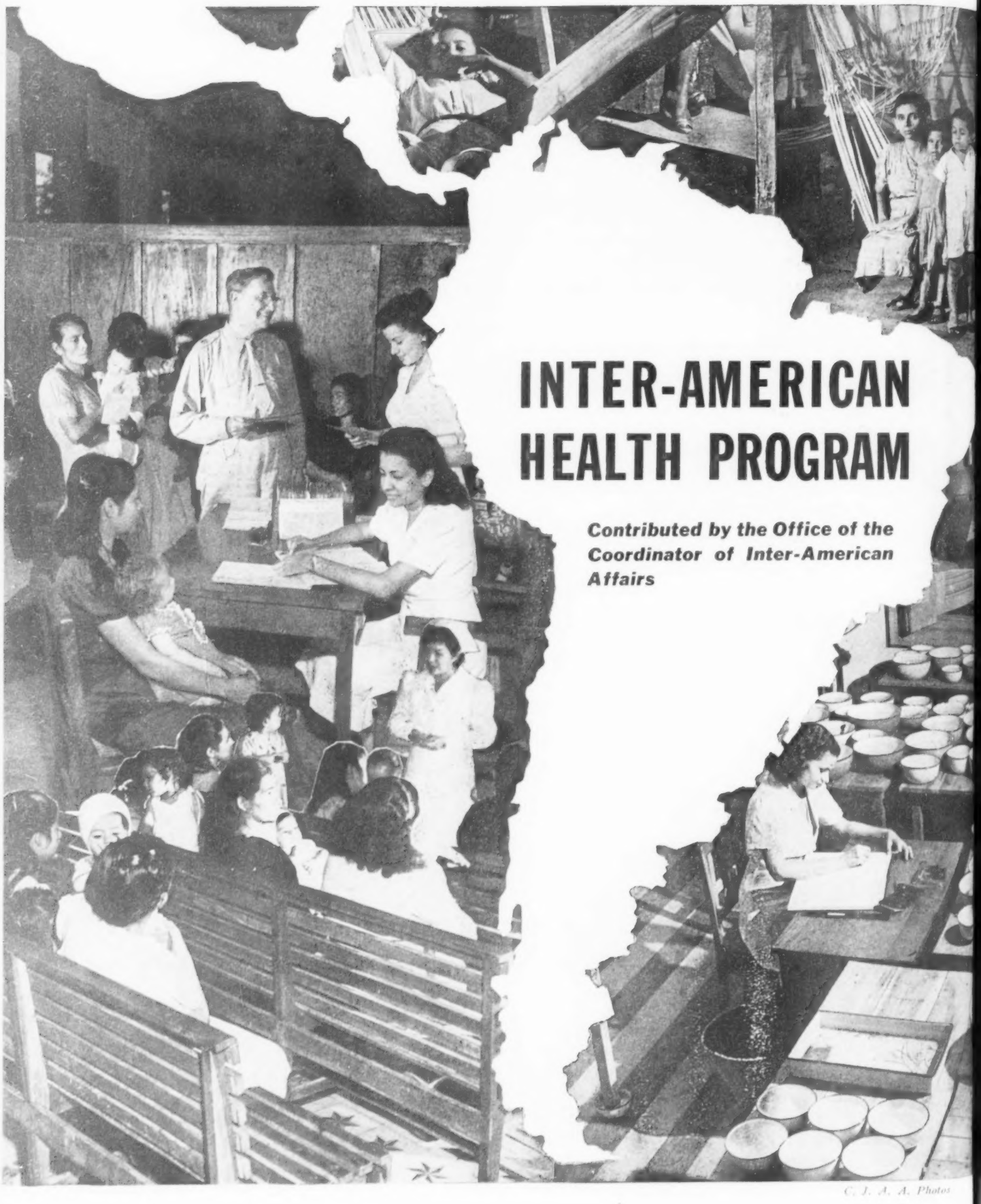
Furthermore, we find on the economic side that the cost of adequate, modern cancer therapy is large. Expensive tools, special equipment, organized services and doctors highly trained in tumor pathology, radiology and surgery are the essentials. A large number of cancer patients are unable to meet the cost of diagnosis and treatment. The facts in regard to cancer show clearly that, like heart disease, mental disease, venereal disease and tuberculosis, it is a major, national, medico-socio-economic health problem.

THE FEDERAL PROGRAM

In 1914, the American Society for the Control of Cancer was inaugurated. Professional and lay groups joined to launch in the United States this movement which had as its objective the education of physicians and the public to an effective understanding of the primary importance of early diagnosis and prompt, expert treatment of cancer. Supported by the American College of Surgeons and the American Medical Association, the movement has succeeded beyond all expectations. The Women's Field Army of the Society now has well organized units with commanders and subordinate personnel in forty-six of the forty-eight states and in the District of Columbia. Twenty-three thousand voluntary workers have distributed more than four million pieces of literature giving information about cancer. In recent years the widespread interest in cancer control has been steadily gaining momentum, motivated largely by the realization that approximately one fourth of the 158,000 people who die of cancer each year in the United States could be saved if the knowledge already in existence could be made available to all our people and were acted on promptly. "Fight Cancer with Knowledge" has been a useful slogan. Briefly, what this knowledge teaches is the necessity for early diagnosis, that as a general rule *when* cancer is treated is more important than *how* it is treated, provided the patient is in competent hands. Rarely is competent treatment of any avail unless it is given in the early stages.

Home of the National Cancer Institute, built in 1940 by the U. S. Public Health Service at Bethesda, Md.

But education alone is not enough, especially when our knowledge of a disease is incomplete and when no specific remedy is available. Continued, painstaking, or- *(Continued on page 664)*



INTER-AMERICAN HEALTH PROGRAM

Contributed by the Office of the Coordinator of Inter-American Affairs

C. I. A. A. Photos

ALONG THE AMAZON go floating dispensaries, bringing doctors and drugs to new settlements of rubber workers hard to reach by land.

Into backwater swamps of Haiti, in sight of new fiber plantations, march antimalaria squads with drainage equipment and larvicides in an all-out war on the mosquito.

From Guatemala to Paraguay rise new clinics and hospitals to fight tuberculosis, a principal cause of death in the Americas.

In all these ways and a hundred more, a great inter-American health campaign goes forward today in fourteen American republics, some of which are sites of bases for hemisphere defense and all of which produce strategic materials for the arsenals of the United Nations.

The program is being carried out cooperatively by agencies of the Latin-American governments and the Institute of Inter-American Affairs, a subsidiary of the Office of Inter-American Affairs, headed by Nelson A. Rockefeller, in Washington.

As its contribution to the inter-American battle for health, the Institute has assigned scores of doctors, nurses, engineers and other technicians, supplementing the contributions of the cooperating American republics.

By safeguarding workers, the health campaign helps assure the flow of rubber, fibers, metals, vegetable oils and other materials to the factories of North America. It also helps lift the living standards of the Americas.

Chief consultant in this hemispheric program is Dr. George C. Dunham, director of the Health and Sanitation Division of the Coordinator's office. A modern version of the physician on horseback, he is an airplane doctor with 25,000,000 patients. During a ten month period he managed to ride his circuit five times and covered 57,497 miles. His tall, brawny, tireless figure has become a familiar sight in Port-au-Prince, Quito, Lima, Asuncion, La Paz and Rio de Janeiro.

He has dispatched parties into the vast Amazon Valley up and down the length of the Andes, into cities and jungles, hot climates and cold. His men are resourceful technicians who know how to cope with snakes, fleas, sting rays, electric eels, carnivorous ants and—most important—with the anopheles mosquito.

On the wall of Dr. Dunham's office in the Commerce Building is a large map of Central and South America, speckled with varicolored pins. Blue means building projects: hospitals, dispensaries, clinics. Black means sanitary engineering: sewage plants, water supply, drainage ditches. Red stands for medical units for treatment of disease. Green indicates health education and the training of nurses. Brown shows dispensary launches along the Amazon and its tributaries.

There are hundreds of these pins. They march down the map through Haiti, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica and Panama. They go down South America's west coast through Venezuela, Colombia, Ecuador and Peru. They swing over eastward to Bolivia, Paraguay and Brazil. They cover the great ranges of the Andes. They sweep 2,200 miles across the Amazon Valley.

To further the program, various republics have set up a Cooperative Inter-American Public Health Service. More than six hundred separate projects, units of operation, surveys and other types of public health activity have been started or scheduled. What are these projects?

They are hospitals and health centers in mountains and jungle. They are medical and nursing schools. They are market places and slaughter houses for clean handling of food. They are sewers and disposal plants and pure water systems in the cities. They are clinics and doctors and surgeons, storehouses of medical supplies, chemicals and disinfectants, drugs and millions of atabrine tablets to combat malaria.

The blueprint for the health program was laid down in January 1942 at the Rio de Janeiro meeting of American foreign ministers, where it was agreed to strengthen the Americas by strengthening their health and well-being.

The program got under way two months later in Ecuador. Since then, dozens of technicians have gone south on survey trips. Local health authorities have joined in mapping projects. Equipment, medicines and supplies have flowed southward, and the widely diverse projects have taken shape. Many have been completed. New ones are being mapped continuously.

(Continued on page 682)

PENICILLIN

By
E. K. GUBIN

A NEW DRUG derived from a mold commonly found in bread or cheese is already saving the lives of many of our soldiers and sailors. Penicillin is so powerful that even in great dilution it will stop the growth of dread staphylococcus aureus—yet it is so mild that one hundred thousand units injected into the veins of a patient are without toxic effect.

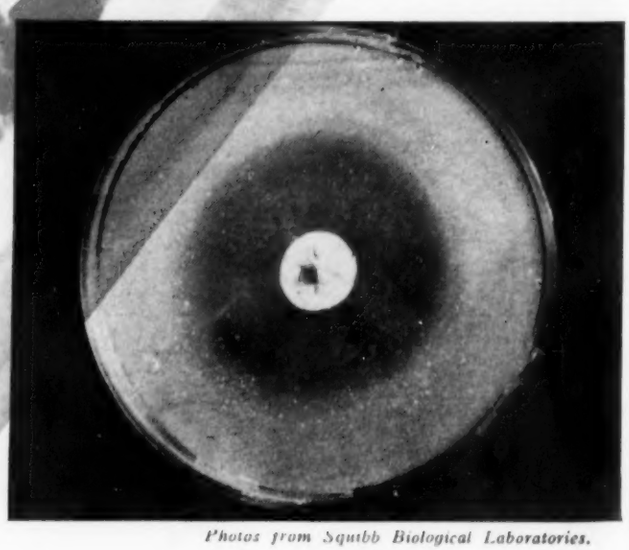
The list of infections successfully cured by penicillin is a roster of some of the most terrible diseases of man. Osteomyelitis—the crippling infection of the bone which strikes young and old alike; septicemia—the blood poisoning which results in speedy death; meningitis—another crippler and killer; pneumonia; gas gangrene—the infection which results in numerous battlefield amputations and deaths; cellulitis—the rapid-spreading swelling which causes death in many cases; carbuncles—those painful and incapacitating infections; burns—where infections retard healing and result in death; gonorrhea—the vicious invader that sometimes resists all other treatments, including the sulfa drugs; infected wounds—so prevalent in wartime. This is not a complete list, for investigations are still in progress. Scientists at famed Oxford in England and at the Mayo Clinic here and Army and Navy doctors both here and abroad are studying penicillin. Many a killer in today's list of bacteria may meet its match in this innocent appearing mold—Penicillium notatum—the producer of penicillin.

Like a number of other important drugs, penicillin was first discovered entirely by accident. In 1929 an English scientist, Dr. A. Fleming, was working in his laboratory with some culture plates containing staphylococcus. He laid a plate aside, and later noticed a spot of mold growing on it. Curiously, on close inspection he found that the staphylococcus colonies surrounding the mold had become transparent, indicating they were being destroyed by something in the mold.

Scientist that he was, Dr. Fleming knew at once that exposing the plates to the air had resulted in contamination with certain microorganisms. He recognized the mold as being a variety of that commonly found in bread or cheese—Penicillium notatum, and he embarked on a number of experiments.

He found that the mold would grow at room temperature in broth. He watched the mold appear on the surface of the broth—first as a white, fluffy spot which rapidly increased in

This culture dish dramatically illustrates the action of penicillin. Live Staphylococcus aureus colonies are shown in gray area, penicillin has killed bacteria in central white "halo"



Photos from Squibb Biological Laboratories.

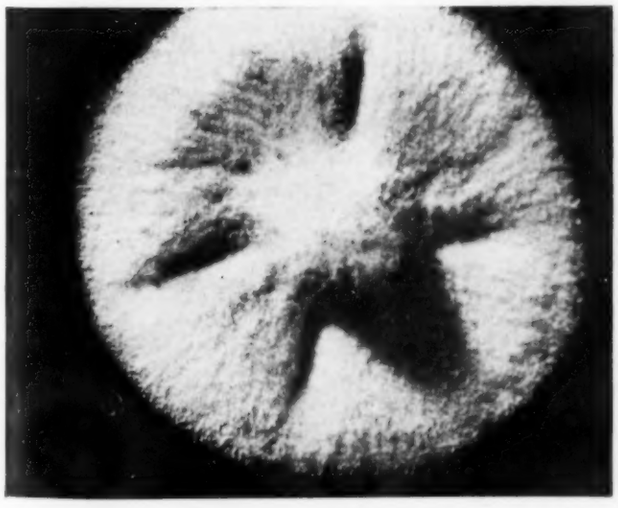
The Wonder Drug

size after a few days. Then it would change to a dark green, felted mass, the broth becoming bright yellow. He noticed that the more common pathogenic bacteria coming in contact with this yellow broth were inhibited or destroyed.

Lacking a name for this new drug, and not wishing to call it "broth from Penicillium notatum," Dr. Fleming decided on the shorter name of "penicillin," and so characterized it when he wrote up his experiments for the austere *British Journal of Experimental Pathology*.

Fleming's find went unnoticed for about ten years. Then war broke over England and research on infection was intensified. At Oxford, Dr. Florey and his associates resurrected the Fleming article and embarked on a series of experiments. The observations of Fleming were substantiated; articles were published in 1940 and 1941 in *The Lancet*. Dr. Florey himself paid a visit to the United States in 1941 to interest this country in solving the problem of producing penicillin in large quantities and experimenting further on its possible uses. He found ready ears in the National Research Council and in the Department of Agriculture. Studies were immediately instituted on the cultural characteristics of Penicillium notatum and on the methods of purifying penicillin therefrom.

Penicillium notatum, the mold from which penicillin is extracted, enlarged many times. The mold shown here is the white spot in the center of the plate in the picture on page 642



The Committee on Medical Research and the National Research Council assisted Dr. Florey in interesting commercial establishments in producing the drug; today some sixteen companies are so engaged.

The present method of securing usable quantities of the drug is to grow the mold cultures in bottles in incubators. A sugar solution is used instead of the broth used by Fleming, and about twelve days of incubation is necessary. The mold grows on the surface of the sugar solution. Eventually, shining golden droplets of natural penicillin are excreted by the mold. These droplets fall into the solution whence they are extracted by evaporation as a yellowish brown, crystalline powder.

Early step in the production of penicillin is the inoculation of sterile bottles with Penicillium notatum. Liquid medium is in bottles

Inoculated bottles are incubated for twelve to fourteen days while mold grows on sterile medium containing mineral salts and sugar

Normally, 160 quarts of mold culture will yield 10 grams of penicillin. Because of its high potency this is sufficient for 100 standard doses. It has been estimated that under present manufacturing conditions, 1,000 grams of penicillin would cost nearly $50,000 to produce. However, private manufacturers and government agencies alike are working on methods to produce penicillin at a far more reasonable cost.

The usual method of treatment is by continuous injection of a solution of penicillin into the veins of the patient. English doctors favor intramuscular injections. Wounds may be treated directly by local application or injection of penicillin solution and burns by the local application of a penicillin ointment.

The use of penicillin in some of our recent war casualties has given phenomenal results. A dozen of the toughest cases from the Pacific area were lodged in an Army hospital in Utah. They included compound fractures, bones splintered by high velocity bullets—wounds which had been under treatment by ordinary means for as long as fourteen months. Some of them were foul-smelling, pus-filled wounds; the men weak, delirious. They had been treated by the sulfonamides and other drugs without avail.

Almost from the beginning of the injection of penicillin the soldiers began to improve. Within a week they became so much better that operations could be risked which were necessary to remove bone fragments, bits of uniform, or, in one case, a galosh buckle which had been driven into the wound.

In the galosh buckle case the wound was healed within twenty-seven days. That was after fourteen months of ineffectual treatment by other known means! The other recoveries were just as rapid. So impressed were the Army doctors that twenty million units of penicillin were immediately sent to our forces in England and a like amount to North Africa.

Hundreds of cases are now in the records of the medical profession, showing the marvelous results obtained with this new drug. Take the case of the little, golden-haired, 4 year old girl who was admitted to the Mayo Clinic after an illness of four days. Her father related that on several occasions shortly before the child's illness, she had bitten the inside of her left cheek.

On admission her temperature was 104 degrees. Her face was so badly swollen as to be out of shape, with both eyes swollen closed. She could not sleep nor eat, and she could barely breathe. Blood cultures showed the presence of deadly staphylococcus aureus; pneumonia appeared.

Sadly the doctors shook their heads. This infection was of a type almost universally fatal. Sulfa drugs proved of little effect. Then intravenous injections of penicillin, averaging 20,000 to 30,000 units a day, were tried; thirty-six hours after initiation of the treatment, blood cultures of the little girl were found sterile. Sixty-three hours later, the child was again able to swallow; she was having only a little difficulty in breathing and could take liquid diet. The swelling was obviously subsiding. The infection was being beaten. By the fifth day the little *(Continued on page 654)*

During incubation, the surface of the medium gradually becomes covered with this blue-gray, corrugated growth, which produces penicillin

Dark spot at bottom of ampule is the "harvest" from mold grown in a one gallon bottle. About 125 gallons of fluid make 1 ounce of penicillin

This picture shows the harvesting of penicillin from fully grown mold. Penicillin itself is in the liquid filtrate, from which it is extracted by evaporation under vacuum. The mold matter is discarded

Above: This infection followed careless nail trimming. Right: Serious injury may result from "corn cures"

The infections shown here are the result of calluses caused by ill fitting shoes—a common source of trouble

DIABETIC GANGRENE

FOR MANY YEARS, gangrene in the feet of diabetic patients was a discouraging problem for doctors. Insulin had not been discovered. Little was known of the recent scientific information about the circulation in the legs. This led to confusion as to how much of the trouble was due to uncontrolled diabetes, how much to poor circulation or to spreading infection. At that time, too, the importance of avoiding injury to the diabetic foot and leg was not recognized. Also in those days methods of preventive care of the feet to avoid infection, to avoid injury or to improve circulation had not been devised. With inadequate diabetic control, surgery was rarely attempted, or when attempted was frequently fatal.

Much progress has been made in this field in the past twenty-five years. Insulin has been discovered. Excellent control of diabetes has been developed. An adequate diet now contains the required amounts of starch, protein and fat together with the essential vitamins and minerals. With insulin this diet is fully utilized, bringing the diabetes under control and restoring the patient's sugar-burning mechanism to normal. With advances in the knowledge of nutrition the patient is now provided with sufficient nourishment, minerals and vitamins to restore him to normal ability to resist infections. Tremendous advance has been made in the study of the circulation in the legs. We now have specific chemicals for treating infections. Now, when the doctor sees a case of diabetic gangrene, he examines both feet and legs to determine the degree of impair-

ment of circulation and the severity and extent of infection. He has at his disposal simple, rational bases for procedure. There is close, cooperative teamwork between the medical men who manage the diabetic control and the surgeons who decide on and perform the operations. As a result, the number of patients operated on is reduced and the number of deaths is correspondingly lower.

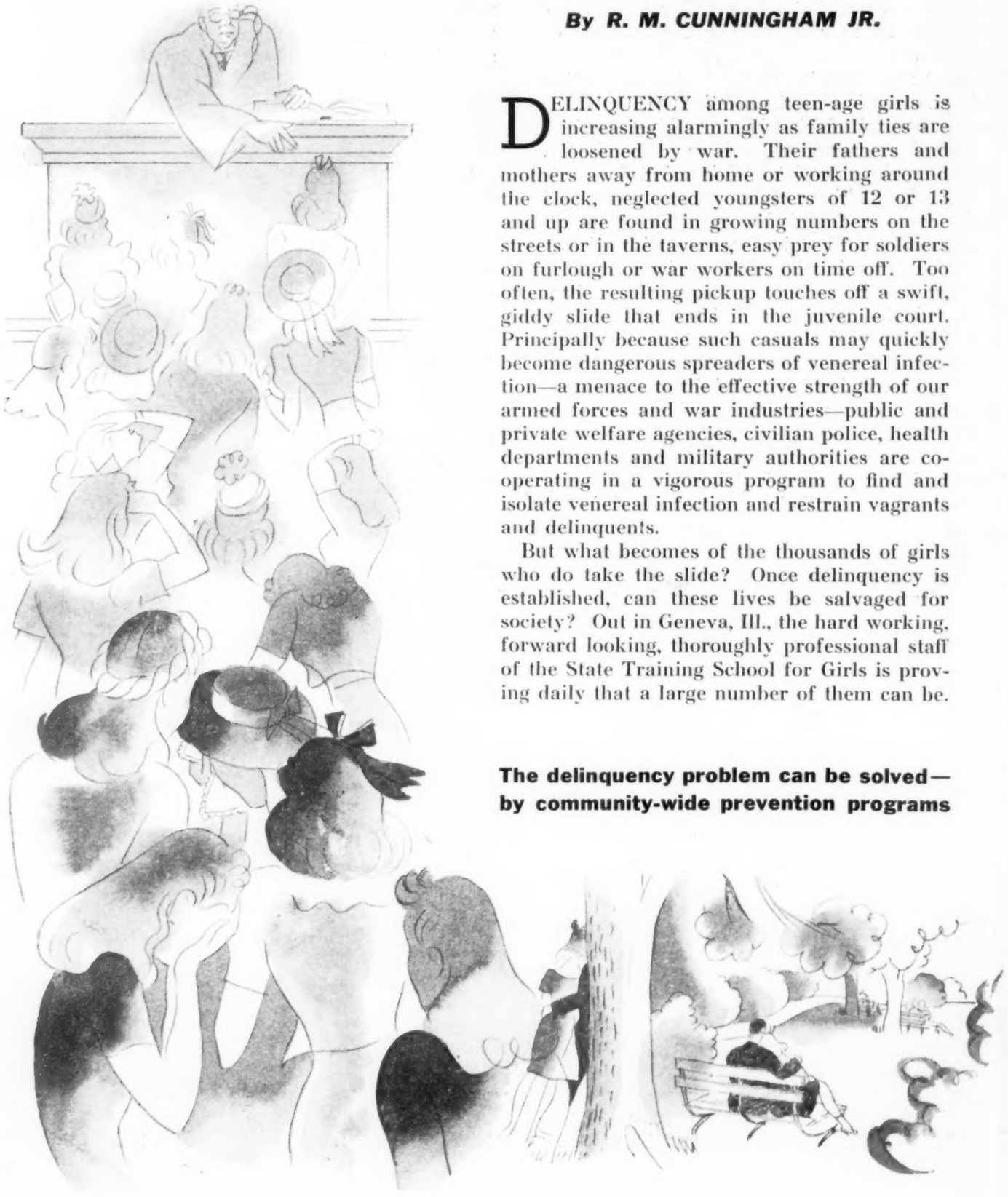
First and most important in the prevention of foot complications in a patient with diabetes is the control of his diabetes. He should be under the constant supervision of his doctor. He should be on a diet, with insulin if he needs it to maintain him with a sugar free urine and a blood sugar which his doctor considers in good control. Next in the prevention of foot complications is cleanliness. A clean foot rarely if ever becomes a dangerous foot. Second only to cleanliness in importance is the avoidance of injury. Nine out of ten of the people who develop gangrene have been found to have sustained some injury. Common among these are foot deformities with shoe pressure, and the commonest of all are corns, calluses and bunions. Next most frequent cause of injury is unscientific podiatry. Many patients have cut their own corns, calluses or toenails to produce the beginning of an infection. Others have gone to professional podiatrists who have not proceeded under the direction of the doctor, and infection has followed. Often shoe nails, blisters from loose shoes, pressure from tight shoes and irritation from short socks cause the initial injury. Injuries from stubbing toes, toes being stepped on and bruised by falling objects are occasionally the inciting cause of gangrene. Injury must also be avoided by the patient who treats his own feet. His foot bath must not be too hot. He must not use strong, patented corn remedies. He must not use strong antiseptics like tincture of iodine. He must not apply heat with lamps, electric pads or hot water bottles which might burn his feet. He must not apply adhering or medicated *(Continued on page 695)*

By FRED W. WILLIAMS

Loose shoes rubbed this sore into the patient's heel, and a dangerous infection developed later

Above: Shoes that were too tight at the instep caused this injury. Left: Burns from a "sun lamp" may be serious

HELP FOR DELINQUENT GIRLS



By R. M. CUNNINGHAM JR.

DELINQUENCY among teen-age girls is increasing alarmingly as family ties are loosened by war. Their fathers and mothers away from home or working around the clock, neglected youngsters of 12 or 13 and up are found in growing numbers on the streets or in the taverns, easy prey for soldiers on furlough or war workers on time off. Too often, the resulting pickup touches off a swift, giddy slide that ends in the juvenile court. Principally because such casuals may quickly become dangerous spreaders of venereal infection—a menace to the effective strength of our armed forces and war industries—public and private welfare agencies, civilian police, health departments and military authorities are cooperating in a vigorous program to find and isolate venereal infection and restrain vagrants and delinquents.

But what becomes of the thousands of girls who do take the slide? Once delinquency is established, can these lives be salvaged for society? Out in Geneva, Ill., the hard working, forward looking, thoroughly professional staff of the State Training School for Girls is proving daily that a large number of them can be.

The delinquency problem can be solved—by community-wide prevention programs

Furthermore, studies and experiments already under way in Geneva point to a time—still far in the future, perhaps—when a well integrated system of tax-supported institutions may come close to achieving the ultimate goal in social rehabilitation of correctable delinquents—100 per cent.

The full impact of the wartime increase in delinquency has not yet been felt at Geneva, though the average age of girls committed to the school by county juvenile courts is steadily decreasing—an ominous sign. School officials are aware, however, that today's pickup is tomorrow's delinquent; they know that their load will continue to grow, and that the work they're doing will thus be increasingly important in the kind of postwar society most Americans want.

In the language of welfare workers, Geneva is a "correctional" institution. Fortunately, the sharp-faced public servant of the past for whom the term "correctional" was simply a euphemism for "penal" or "criminal" is rapidly disappearing from the scene and is already an anachronism at Geneva, where most staff members think of the school's function in terms of true rehabilitation. Today, more than 300 girls from 12 to 21 years old are living, working and taking academic and vocational training on the school's spacious campus, beautifully located on a bluff overlooking the Fox river, fifty miles west of Chicago's Loop.

The school is operated on the cottage plan. For three weeks after her admission, a new girl is kept in isolation quarters attached to the school dispensary. During this period, she is given a complete physical examination and is interviewed and tested by the staff psychologist, a social worker, school and vocational counselors. Then she is assigned to a cottage, or residence hall, where she will sleep, eat and enjoy recreation hours with about twenty girls of approximately her own mental age and behavior pattern. A third of the incoming girls are pregnant or have venereal disease. Pregnant girls go to school and work along with others, making regular checkup visits to the school physician, until their term is up. Then they're sent to the University of Illinois hospital in Chicago to be delivered, and on discharge from the hospital they return to the school with their babies. Later, the babies are placed with the mother's relatives or in foster homes. No girl is permitted to leave the school until her baby has been provided for.

and the provision of adequate correctional training for rehabilitation of wayward girls

Treatment for venereal disease is undertaken immediately on entrance, and diseased girls are kept in strict isolation until the infectious stage is safely past. Results are uniformly successful, largely because there is no case-holding problem. That is, treatment is compulsory and is continued in every case until the physician is satisfied that further care is unnecessary, whereas in most public health venereal disease clinics a substantial proportion of the patients drift away after symptoms disappear and tests are negative. Other therapeutic or remedial measures for physical defects are also carried out as indicated. Eye examinations are made and glasses provided for those who need them. A large percentage of the girls have defective teeth; these are cared for, even to the extent of providing full dentures when necessary. Skin diseases are treated; hair is cleaned and waved. The resulting improvement in appearance, particularly of girls with bad teeth, poor complexion or unattractive hair, accomplishes the first step in restoring self esteem.

A full academic schedule is carried by each girl at the appropriate grade school or high school level. The academic program is accredited and follows state board of education requirements, with the exception that schedules are arranged on a twelve month instead of a nine month year. After eighth grade, classes in sewing, cooking, typing and shorthand are added for capable students. Religious instruction is provided through an arrangement with the local ministerial association: nondenominational Sunday school classes are held in the cottages under the *(Continued on page 666)*

750,000 UNWANTED MEN

By WILL O'NEIL

THE DRAFT BOARD had a hard time trying to get George lined up for induction. First it was a long list of dependents, all of whom fell away under the board's scrutiny. Then came last minute claims of a sprained ankle, family illness, a pregnant wife. There were months of argument and evasions, three postponements of induction, but finally George reported to the draft board office early one morning on his way to the Army induction station. Six hours later he returned to the office, still in civilian clothes, looking both angry and bewildered.

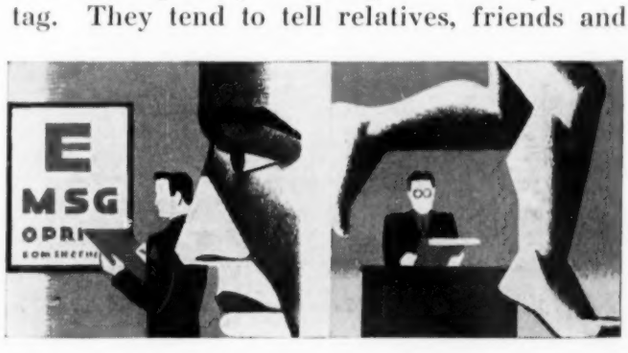
"The Army won't take me," he said. "They told me I'm crazy."

Forty men were sent to the induction station by another draft board. Fourteen came back the same day, rejected as mentally unfit for military duty. The clerk of the board checked their questionnaires. All were college graduates and all had reasonably good jobs. The clerk was disgusted. "It's the psychiatrists that are crazy," he complained.

The Army and Selective Service stopped issuing statistics about the number of men rejected at induction stations, and the reasons for such rejections, as soon as we started fighting. Figures given to Congress recently by Maj. Gen. Lewis B. Hershey, national director of Selective Service, and some published in *The Journal* of the American Medical Association, however, indicate that at least 750,000 men have been rejected for military duty in this war because they are psychiatrically unfit —mentally ill.

Many draft board members resent these rejections. They can't understand the Army's reasons for turning down perfectly able-bodied men when the Army—and all the other branches of the armed services now—are leveling large and larger demands for manpower at them. In some instances the boards feel that rejected men have put one over on the Army and themselves. They are baffled because there is virtually no appeal from the decisions of the Army doctors. The Army is the final judge of the physical and mental fitness of its men.

Rejected draft registrants, most of whom were unaware that their personalities were out of tune with the rest of the world, are frightened and upset by the Army's "mentally unfit" tag. They tend to tell relatives, friends and



employers that they were rejected for some other reason. Some of those who admit the real reason for their rejection—the draft boards are prohibited from making it public —have trouble getting or keeping jobs.

Appalling as the Army rejection figures may seem, they are not out of line with our infor-

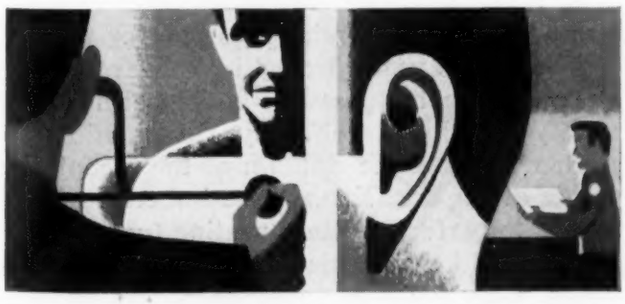
mation about mental illness in the general population. Medical statistics show that 5 per cent of our general population are committed to institutions for the insane some time during life. Another 5 per cent of all the people, although not subject to commitment, are more or less incapacitated by mental illness at some period in life.

The Army knows that men from this 10 per cent of the population will do more harm than good. First, they do not make good soldiers. They are apt to be awkward, slow to learn and inefficient. They are the boys who are insubordinate, who go A.W.O.L. and who weaken and destroy morale. If accepted, they would clog the Army's medical facilities before their units ever saw action. And, second, thousands of them would come out of the Army to be public burdens for the rest of their lives. Before we go into details about the reasons that such men make poor soldiers, let's look at the second point as it develops out of the experience since the last World War.

The idea of a mental examination for prospective soldiers was new when we began drafting men in 1917. Sigmund Freud was not to popularize the trade of the psychiatrist until the war was done. Many of the Army's doctors, old and new, were as resistant to the idea that a man's mental condition was important as were the draft boards of that time.

The examining psychiatrists were limited in number, and they faced many working handicaps. Draft boards, refusing to believe that a man with a strong body might have a weak mind, fought rejection of the mentally unfit.

Psychiatrists trying to examine men already in uniform met with resistance from other doctors and from line officers. In many instances,



the resistance from their colleagues in the medical profession was the strongest. Psychiatrists had to wait until men were lined up for physical examinations and take quick looks at their unwilling subjects.

Colonel Pearce Bailey, writing in *The Medical Department of the U. S. Army in the World War*, says that "not all of the soldiers admitted to the Army were examined by neuropsychiatrists, but the large majority were (mentally) examined by one method or another." Such examinations, even the very sketchy ones, however, were not given to the officers, and their rate of discharge later was greater than that for enlisted men.

The lack of efficiency in mental examinations was brought sharply into focus when General Pershing cabled from France in 1918 that the "prevalence of mental disorders in replacement troops recently received suggests urgent importance of intensive efforts in eliminating mentally unfit." The Surgeon General's office thereupon reviewed the cases of the men recently forwarded to France. The review showed that 3,035 of the men examined were disabled by "gross and easily detectable" mental diseases. No mention was made of the lesser mental weaknesses which now concern Army examiners.

Despite their inadequacies—their own and those forced on them by lack of numbers and the Army's general reluctance to accept their aid—the psychiatrists did manage to reject 2 per cent of the men they examined before induction and to obtain the discharge of another 3 per cent who got into uniform despite their mental disabilities. That they didn't catch enough of these men is shown by what has happened since then. More than 33,000 veterans of the last war who suffer from mental illnesses occupy about 60 per cent of all the hospital beds maintained by the Veterans' Administration. These patients cost an average of from $30,000 to $35,000 each. A good deal less than half of them are listed as having service-connected disabilities. Included among them are men who had nothing visibly wrong with them when they left the Army but who became eligible for free government treatment when, in 1926, Congress made all veterans eligible for free medical care and hospitalization.

Even those whose disabilities are listed as having occurred while they were actually in uniform didn't all get that way as a result of combat duty. Merely putting a man in the Army was enough to cause mental disability in many cases.

The total cost of these cases from the last war already has gone well over the billion dollar mark. And we'll be paying for these cases from the last war for many years to come. The Veterans' Administration has found

that a mental patient, once in a hospital bed, is harder to get out than a man with tuberculosis.

The Army keeps one eye on this and the other tremendous expenditures for hospitalization and medical care when it looks at men for service in this war. But the problems of postwar medical care are secondary to the immediate need for effective fighting men. That need is the Army's primary concern. And that need brings us back to the psychiatrist and what he is looking for in men who would be weak links in our military coat of mail.

The psychiatrist is, first of all, a doctor, recipient of the same training, the same degrees and the same licenses to practice as are held by all his colleagues in the medical profession. But he is a specialist in disorders of the mind rather than those of the body. "The psychiatrist's domain," says Dr. Alan Gregg, director of Medical Sciences for the Rockefeller Foundation, "is almost bafflingly large, for it includes derangements of conduct or behavior often discernible only in terms of the patient's relationships with other human beings in some given intellectual or cultural or social or moral system."

The psychiatrist, then, is concerned with disorders, defects or inadequacies in behavior or conduct. He seeks to determine whether or not the man about to be inducted into the Army will behave as a good soldier should in the necessary routine of Army life as well as under the greater stresses of combat.

The doctor dealing with tuberculosis or bad eyes or ulcers or a defective heart is talking about something that he can put his finger—or an x-ray—on. When he says that a man has a physical defect we know what he means, and, in many instances, we have a more or less exact understanding of the basis for his diagnosis.

But whereas the physical disease involves material things that can be weighed and measured, disorders of the mind involve the unseen and the intangible. The stuff of which the psychiatrist's diagnosis is made is often nearly as much of a mystery to the ordinary physician as it is to the layman.

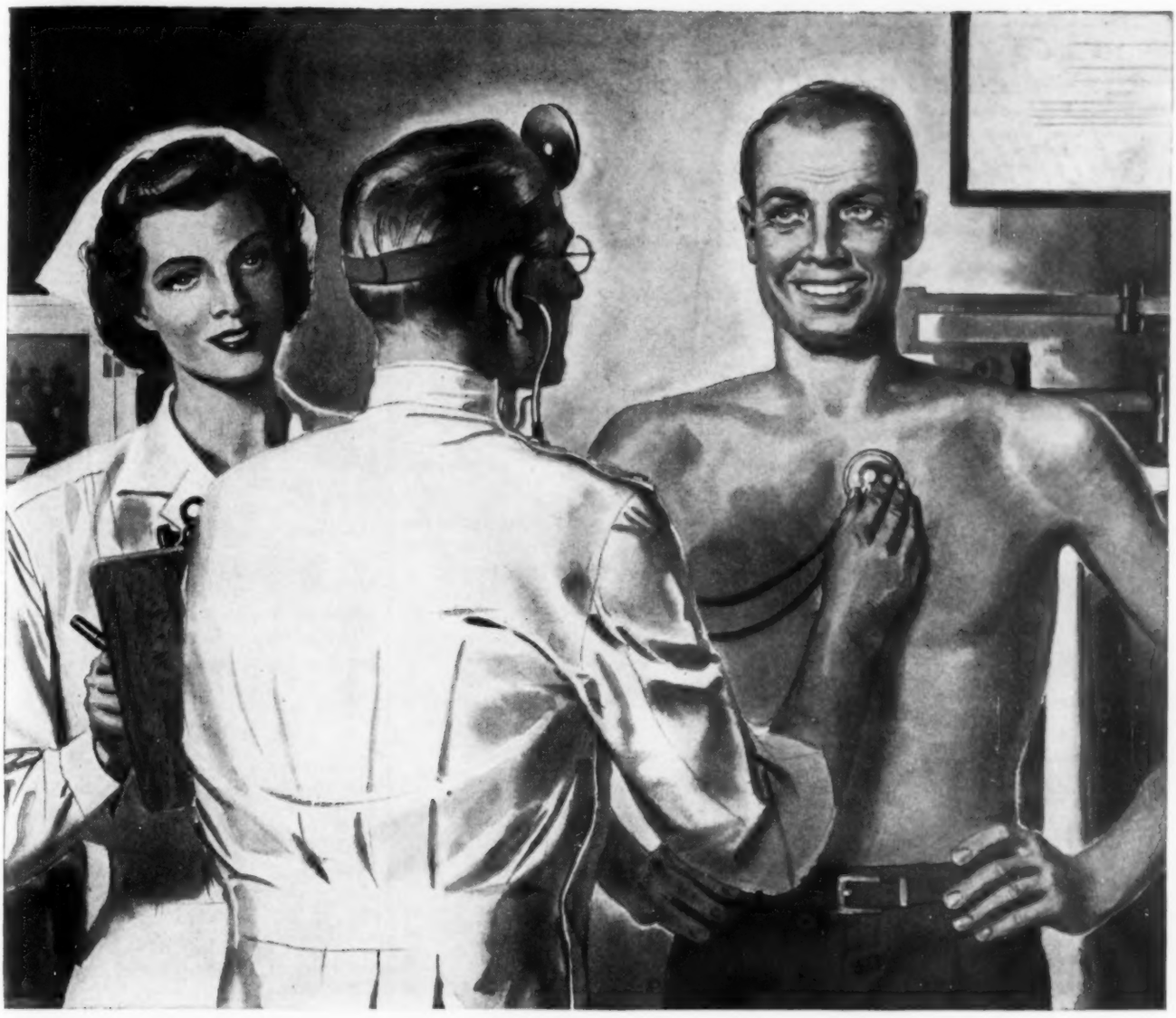
The examining psychiatrist working in an Army induction station is looking for those who are or might become mentally disordered, as well as for those who are insane. The psychiatrist uses the term "insane" when speaking of those whose conduct is so abnormal that they need commitment to an institution. Between the insane and the normal persons lie a vast number of mentally disordered persons who would be a liability in the Army, even though they may be perfectly capable of contributing to the war effort in their civilian capacities.

The difference between the normal person, the mentally disordered and the insane is one of degree. An apparently normal person may suddenly become insane, i. e., may suddenly deviate so far from the paths of conduct of the majority that commitment is necessary. On the other hand, the mentally disordered person may never progress to the stage of abnormal conduct that would make confinement necessary.

Almost every psychiatrist of note has his own system of listing mental illnesses. The Army, in its instructions to medical examiners, tells them that it does not want men with such disorders as mental deficiencies, psychopathic personalities, psychoneurotic disorders, chronic alcoholism and drug addiction, sexual perversions, and the psychoses—manic depressives, paranoiacs and schizophrenics.

These are such large and general terms that even the Army's medical regulations define them at some length. At that, the Army doesn't tell its psychiatric examiners that there are even grades of mental deficiency: idiots, imbeciles and the feeble minded or morons.

"The idiot cannot protect himself from danger and cannot express his biological needs or satisfy them by himself," says Dr. David Rapaport, writing in the *Bulletin* of the Menninger Clinic at Topeka, Kan. "The imbecile can be taught to perform certain routine functions, to contribute toward his maintenance and to avoid simple danger situations, but cannot adapt himself to new situations or exist without constant support and supervision. The moron may earn his maintenance, may even for a period of time appear normal, but, being unable to profit by routine education, needs special class instruction, and lacking adaptivity, needs supervision." *(Continued on page 692)*



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TUNE IN THE SEALTEST PROGRAM, THURSDAY EVENINGS, NBC NETWORK

How much weight should a civilian carry?

IN THE PICTURE ABOVE, you can readily see that the soldier is carrying a substantial burden—equipment which weighs some 40 pounds. What you may not realize is that the civilian carries an equally heavy burden—a burden of overweight which he carries around day and night, in contrast with the soldier who can put aside his pack and rifle when he rests.

Excessive fat places a great deal of extra work on the heart, kidneys, and lungs —work from which there is no relief. That is why overweight can be a threat to health. Figures show that people over 45 who are 20% overweight have a death rate 50% above the average.

What causes excessive weight? Sometimes it is due to glandular disturbances. The most common causes are too much food, and not enough exercise.

When the body gets more food than it needs, the excess is stored as fat. If less is eaten than is required, the body loses weight by burning reserve fatty tissue. Exercise hastens the process, but by itself is seldom effective. This gives us the principle often used in planning programs to reduce weight.

If you are overweight and want to reduce to your "fighting" weight, you will be wise to start by having your doctor examine you thoroughly. With his advice, a diet can be planned which in normal cases will cause a moderate, steady loss in weight and at the same time protect your health. Exercise, fitted to your age, condition, and occupation, will round out the program.

Avoid the use of reducing drugs except on the doctor's advice. Girls in their teens should especially avoid "fad" diets or the risk of reducing on their own responsibility.

To help those interested in watching their weight, Metropolitan offers a free booklet, 93-Z, entitled, "Overweight and Underweight." Among other things it contains information about low-calorie diets and helpful exercises.

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Penicillin—The Wonder Drug

(Continued from page 644)

girl was able to eat semisolid and solid foods. By the ninth day, her temperature was normal. What a difference now in her appearance! Without the use of penicillin, doctors were convinced, she would never have recovered.

Another patient was a woman 28 years old with severe nasal and facial cellulitis. Her right nasal passage was obstructed by the swelling, and there was a continuous discharge of purulent material. Her face was badly swollen. She had received several doses of sulfanilamide, but the pain and swelling continued. Her fever rose to 104 degrees. Penicillin was given for six days, and at the end of that time the woman had completely recovered.

In a recent issue of the English medical publication, "Lancet," various English cases were summarized by Dr. Florey. A man aged 53 was brought to the hospital comatose and believed to be dying from streptococcus meningitis. Previously, sulfapyridine had been given for eight days, without definite improvement, sulfathiazole had also been given for thirteen days without change, though life was sustained. Immediately on his arrival at the hospital, penicillin treatment was commenced; five weeks after start of the treatment the patient was discharged from the hospital, fully recovered.

Dr. Florey also mentioned the external use of penicillin in 172 infections of the eye, mastoid, chronic wound sinuses and miscellaneous septic conditions. Forty-six eye infections with previous duration of from two months to thirty-two years were treated. Penicillin ointment and penicillin drops were used. A number of cases had had previous sulfa treatments, without permanent results. All of 18 cases of acute inflammation of the eye were found free of infection after penicillin treatments which lasted from one to five weeks. Included was a woman of 70 years who was cleared completely in a month. In 19 chronic cases of

inflammation of the eye, all but one recovered in from one to five weeks.

Twenty-two mastoid infections were treated with penicillin. The patients' ages ranged from 10 months to 76 years. Primary healing took place in 14 of the acute and 5 of the chronic cases within seven days.

The Royal Infirmary at Glasgow reports excellent recoveries of infected burns treated with penicillin cream. Fifty-four burn cases were treated with penicillin cream at the Royal Infirmary, and in 41 of the wounds infective organisms had disappeared within five days. Healing was unusually rapid, and toxic effects were not observed.

Especially remarkable have been the results with gonorrhea resistant to sulfa drugs. The usual treatment in this infection is by sulfathiazole. Penicillin cleared up the gonorrhea in 2 days, and there is a report on 68 cases without a failure.

As used by the United States Navy, penicillin is prepared in ampules with the material ready for injection and with 100,000 units in each ampule. The material appears as a fine powder, varying in color from light yellow to dark brown and has been previously purified, dried and tested for sterility. This material will keep well at ordinary room temperature, but high temperature breaks it down and prolonged exposure at room temperature makes it deteriorate. Therefore the ampules are stored in a refrigerator until ready for use. When kept in the form of a liquid, penicillin is unstable and must be kept at all times in a refrigerator. When the material is to be used, the powder is dissolved in sterile distilled water, sterile normal salt solution, or 5 per cent glucose solution.

In the Navy the product is being used for infections caused by the staphylococcus, the hemolytic streptococcus, the germs of pneumonia and gonorrhea—particularly for those cases which have resisted treatment with the sulfa drugs. Since the amounts of the drug available even for these limited purposes are small, the most serious cases—namely, infections of the blood or of the spinal fluid—with these dangerous germs are given preference. Indeed, for infections of the spinal fluid the material is now injected directly into the spinal area. Not many people react unfavorably to the drug. In fact, there were in 264 cases only 11 instances with an eruption on the skin indicating some sensitivity.

Supplies of penicillin sufficient for civilian use may not be available until after the war. However, all the resources of American pharmaceutical science and many associated industries are being mobilized. Because of its life-saving significance the War Production Board and every other governmental agency that can be helpful is giving sympathetic consideration to the proposals for establishing manufacture of this important product. Conceivably, this type of encouragement may make it possible to have some penicillin for civilian use within the next three or four months. When that time comes medicine will have available a new weapon which will revolutionize the treatment of some of our most dreaded diseases and save innumerable lives which, without this new product, would quite certainly be lost.

HYPERTHYROIDISM

Preliminary studies indicate that two chemical compounds, thiourea and one of its derivatives, thiouracil, may be useful in the control of hyperthyroidism (excessive activity of the thyroid gland), E. B. Astwood, Boston, reports in a recent issue of *The Journal of the American Medical Association*. "However," he says, "a true evaluation of the merits and dangers of such therapy will require the observation of a large number of cases over a prolonged period of time. . . . "Further studies will be necessary in order to determine the optimal therapeutic regimen for long term treatment. Certain cases of hyperthyroidism will probably require treatment over many months or even years, while in other cases the state of hyperthyroidism is apparently temporary and self limited. It may be possible by the use of drugs of this type to maintain such patients in normal health during this period of temporary disturbance. . . ."

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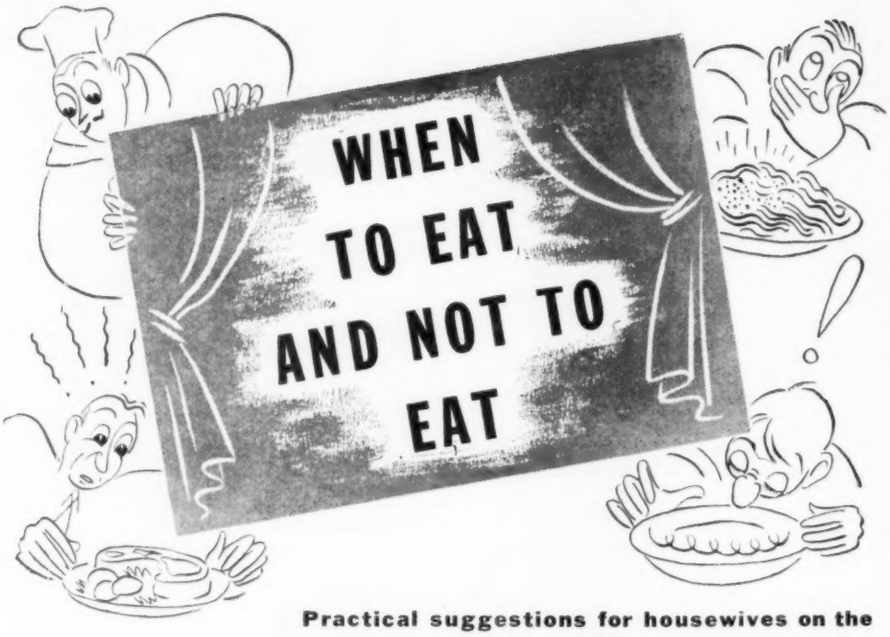


Practical suggestions for housewives on the care and protection of foods for safety in eating

By MARY C. BROWN

HOW can we tell whether food is safe to eat? Food laws and conscientious food handlers protect us, but it is common sense to see, to smell and to know. Intelligent planning for the purchase of foods according to family needs, plus a proper knowledge of how to care for foods not used immediately after they are bought, how to protect "leftovers" that must be stored from meal to meal, and how to detect spoilage, will pay large dividends in the avoidance of unsafe foods and in protection for the family budget.

CUPBOARD FALLACIES

It is a common belief, for example, that the kitchen cupboard is a suitable storage place for cooked meat—especially luncheon meats and cured meat. This is a dangerous belief. All meat should be kept on one of the coldest shelves in the refrigerator, at 42-45 F. The home refrigerator, moreover, is not cold enough for satisfactory storage of raw meat, which should be cooked within a few hours after it is purchased.

Low humidity is important to prevention of the growth of mold on the surface of meat, cheese or other food. For this reason, these foods should remain uncovered in the refrigerator.

Frequently, a housewife's attitude is that if leftovers are eventually eaten, her problem is solved. Actually, her real solution lies in preventing leftovers by cooking less food. If guests come at mealtime, extra food may be taken from the emergency shelf of canned goods. If food is left over, however, it should be heated thoroughly (after exposure to the air), covered and refrigerated adequately. Foods which mold readily, such as gelatinized meat juice, should be left uncovered in the refrigerator. Leftovers should be heated again thoroughly before serving. They should be used within twenty-four hours after the original cooking. The idea of keeping leftovers for several days is incorrect.

It is all right to check refrigerator temperature to see that it is below 50 F., but this is not assurance that all the food stored there will be safe to use whenever desired. One part of the refrigerator must provide a temperature 8 to 10 degrees lower than 50 F., for fresh meat and milk, as well as cooked meat, gravy and soup.

ENZYMES IN MILK

Several enzymes (chemical compounds formed by living cells) naturally present in cow's milk bring about slow decomposition. In addition, bacteria are introduced into milk at every stage of its production and distribution. Dr. Morris Fishbein states: "Most of the milk-borne infections can be controlled by heat treatment, which, in the case of milk, means proper pasteurization. The pasteurizing of milk is not to be considered as a substitute for cleanliness. Pasteurized milk is intended to mean safer milk and it should also mean clean milk."

Dr. Fishbein gives several reasons why all milk should be pasteurized for direct human consumption or for use in ice cream, cheese or other milk products, and universal pasteurization should be adopted in the interest of public health. The proper care of milk does not end, however, when it is placed on the doorstep. It should be protected from freezing. It should be placed immediately in the refrigerator at a temperature of about 40 F. The milk bottle cap and edge should be wiped carefully, then washed thoroughly under cold water if the cap does not cover the top of the bottle.

Buttermilk is carefully prepared from clean milk—"cultured" by the introduction of a selected strain of bacteria which changes milk sugar into lactic acid, providing the sour taste. A similar change takes place when raw milk is allowed to ferment. We do need to know, however, that milk allowed to sour naturally at high temperatures has many undesirable features. In recipes that call for "sour milk" to be used in cooking, it is much better to buy buttermilk or sour cream from the dairy and refrigerate it until it is ready to be used, in order to maintain the best flavor.

Most of the cheese we now buy is pasteurized or "processed." This cheese does not mold on the surface readily. It should be kept in the refrigerator, however, and cheese or any other food should not be left uncovered in the kitchen.

Rancidity is a natural change which occurs in any fat if the temperature is high. There are definite chemical tests for the degree of rancidity in oils. Some shortenings are "stabilized," or their rancidity is inhibited, so that they actually do not require refrigeration in the home, and they even withstand some cooking heat without turning rancid. Unless the label states that the cupboard shelf is satisfactory for storage, shortenings and salad oils, as well as peanut butter, should have refrigerator space.

Packaged dates have usually been pasteurized and thoroughly cleaned. Bulk dates are sometimes actually

dirty, which makes a great difference in whether or not they will spoil. Apricots, raisins and prunes have almost always been cleaned, sterilized or heat treated. In hot weather, though, they should have refrigerator space.

KEEPING CANNED FOODS

The inside of the can is absolutely clean, although occasional slight corrosion may have occurred. It is not necessary to empty food into some other container, although some people claim to taste a "tinny" flavor when food is left in the can and at the same time exposed to air.

Since the small cans used for infant foods, sieved vegetables and chopped vegetables for small children are enamel lined and never corrode, it is all right to cover the open can with a piece of waxed paper tied in place with string.

It is a common fallacy that evaporated milk may be left in the can and stored in the cupboard. It is all right to leave the milk in the can, although it might better be poured into a pitcher, because the inside of the can may rust. It is just as desirable to refrigerate evaporated milk as any other milk which has been boiled, in order to prevent changes in flavor and safety.

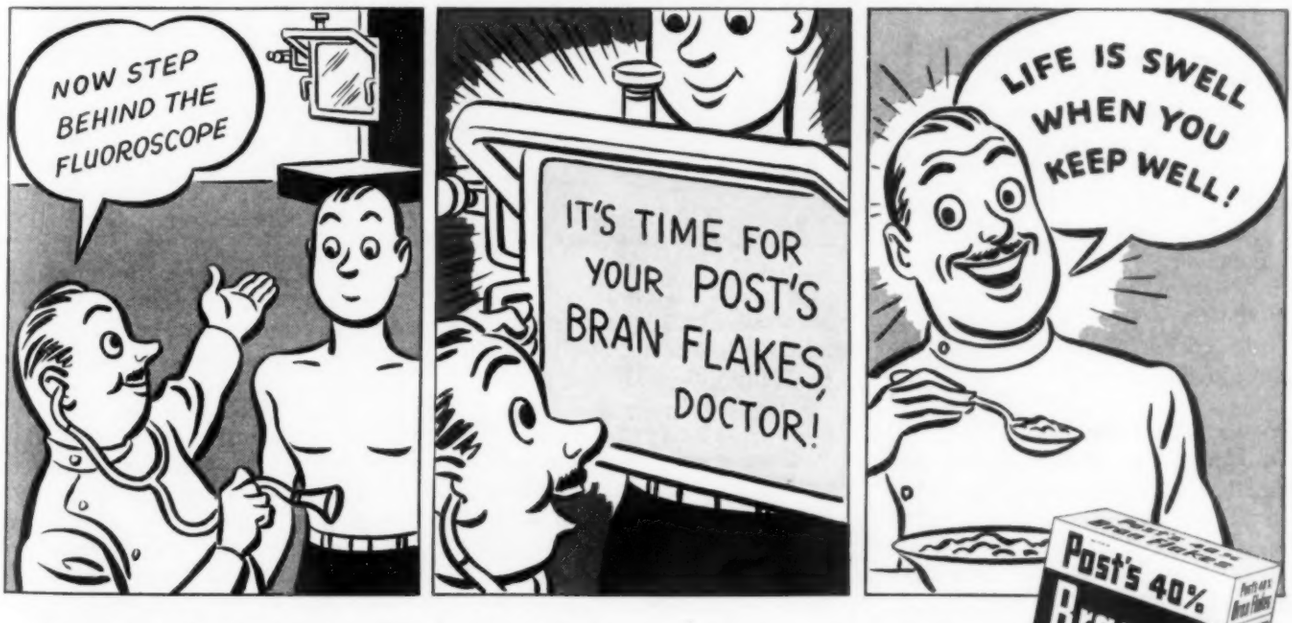
Extensive tests on potatoes show that they are kept in the best condition, with the least possible change in color and flavor, at a storage temperature of 60 F. The storage room can be as warm as 70 F. without important changes. When the storage temperature is 40 F. or lower, however, the potatoes develop a sweet flavor, slightly soggy texture and yellow color.

Sweet potatoes keep well at practically the same temperatures, as do lemons and oranges. After potatoes are cooked, they should be exposed to the air, as in a colander, and left uncovered to prevent sogginess and development of mold on the surface. They should be refrigerated promptly at 55 F. or lower.

Pared potatoes, apples, peaches, pears and fresh apricots will turn dark unless they are cooked or put under water. Cooking destroys the enzymes, and putting them under water prevents oxygen in the air from coming in contact with the food. The darkening is a chemical action, or oxidation. It can be prevented by covering the surface, or dipping the sliced fruit into lemon juice or pineapple juice, the latter being less acid and more efficient. Apples to be dried may be sliced into a 2 per cent salt brine to prevent browning, and later rinsed in plain water.

The care and protection of pickles is no problem at all so long as the surface is not exposed to air. Pickles protruding from the surface become soft. Slipperiness or softness in pickles will occur when the acidity of the brine in which they are kept is low; it is caused by a so-called "potato bacteria" which requires air for growth. A single potato bacterium, if all conditions are favorable, produces from 10 to 100 million new bacteria in twenty-four hours! To prevent this occurrence, vinegar may be added to the brine to keep it sufficiently acid. Sometimes yeasts will grow at the surface of a pickle brine and cause fermentation, but the firm pickles may be washed in cold water and put into fresh salt brine, or, if sufficiently cured so that they are tender and even in color to the center, they may be put into fresh vinegar.

For best flavor, bread dough must be protected from any dust in the



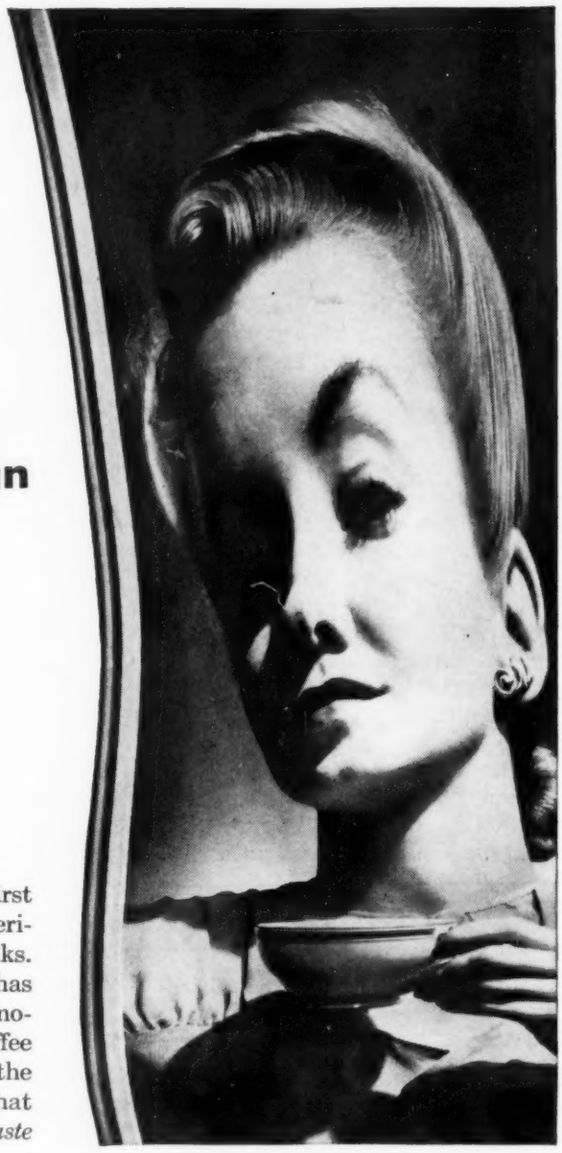
Now—Whole-Grain Nourishment of Wheat, plus Bran Benefits!

Cereals—whole-grain, enriched, or restored—rate high in our government's new nutrition program. They're included in Group 6 of this "Basic 7" Nutrition plan.

Post's 40% Bran Flakes—the *only* nationally advertised, nationally accepted bran flakes—supply whole-grain nourishment of wheat . . . meet or exceed whole-grain levels of thiamin, niacin, and iron . . . and also supply important calcium and phosphorus.

In addition, Post's Bran Flakes are a mild cereal regulative. They provide enough extra bran to help prevent constipation due to lack of bulk in the diet.

A Product of General Foods



This woman is slightly distorted in her thinking

• She is about to try her first cup of Postum, one of America's great mealtime drinks. BUT . . . somewhere she has picked up the mistaken notion that Postum is a coffee substitute—along with the equally distorted idea that Postum is supposed to *taste* like coffee.

It won't.
Postum doesn't taste like coffee.
Nor like tea.

Postum has a distinctive flavor all its own; a fine, full-bodied flavor that has boosted its popularity to an all-time high.

So try Postum, without any distorted ideas. We think you'll like it for itself, along with a great many million Americans who've made it their favorite mealtime drink.

P. S. on Thrift—Postum costs less than half a cent a cup, whether you use Postum Cereal (the kind you boil, drip or percolate), or Instant Postum (made instantly in the cup). Both are products of General Foods.

Listen to the Aldrich Family, Thursday Nights—NBC Network.

POSTUM

ONE OF AMERICA'S GREAT MEALTIME DRINKS

air. The yeast cake you buy is grown under extremely clean conditions; it is a selected and purified strain of yeast that produces much carbon dioxide to raise the bread and gives the bread excellent flavor. Yeast contains an enzyme, called zymase, which, together with enzymes in the flour, such as diastase, produces new, appetizing flavors.

Ordinarily, bread is eaten before it spoils in the home, unless more is bought than is needed immediately, when the weather is rainy and warm. In that case, extra bread may be put in the refrigerator to prevent mold.

The care and protection of the egg does not include washing until just before the cook breaks the shell. Within the shell is the shell membrane, a thin, semipermeable membrane made up of two layers, inner and outer. After the egg is laid, its content cools and shrinks. The air cell at the large end of the egg is formed during this shrinkage by separation of the two membranes.

Deterioration of eggs is delayed if they are gathered frequently during the day and put in a refrigerator. The ideal storage temperature is about 29 F. It is not the actual number of days that an egg is stored, but the conditions under which it is stored, which maintain its original quality. Thus an egg which is a year old may be in better condition than an egg held only a week. Changes occurring in eggs are enzymatic, chemical and bacterial.

Important changes in eggs are: (1) The thick white becomes less viscous and jellylike, gradually changing to a thin, watery white. (2) Water passes from the white to the yolk, increasing the size and fluid content of the yolk. In addition, the yolk membrane weakens, and when the change has progressed further, the membrane breaks when the shell is opened. (3) Loss of moisture occurs.

In the home refrigerator, give eggs the coldest position. Leave the egg basket uncovered, but protect them from odors by placing them directly under the ice or freezing unit at the point where the fresh, cold air first falls.

BUTTER

Protect butter from foreign odors, which it absorbs like a sponge. Protect it from the odor of other foods in the icebox and protect it from

TWO IMPORTANT POINTS ABOUT PROTEIN

Of the three primary nutrients (protein, carbohydrate, fat) protein alone shows these two interesting features: its functions cannot be assumed or fulfilled by the other two nutrients; its daily requirement is constant, is not altered by greater or lessened energy expenditure.

The body can convert protein to carbohydrate and use it for energy purposes. Protein may also substitute for the nutritional functions of fat. But neither carbohydrate nor fat can replace protein in the body economy.

Protein is needed for the repair and replacement of tissues "used up" in the process of living. It is needed for the production of important hormones and other secretions within the body. In children and adolescents it also supplies the "building blocks" for growth, hence a larger amount of protein per pound of body weight is needed by children than by adults.

Since no other food substance can take the place of protein, it is imperative that the daily diet provide enough protein for the body's needs. Toward this end cereal-derived foods can play an important part.

Cereal breakfast foods contain an average of about ten per cent of protein, their actual contents ranging from 7% to 14%, depending on the grain from which derived. Their protein is highly acceptable to the human body, contributing its share to growth as well as maintenance.

When one ounce (prepared cereal or its equivalent in cereals to be cooked) is served with two ounces of milk and a teaspoonful of sugar, this palatable dish presents about 5 Gm. of protein, rendered biologically adequate through the contained milk, 30 Gm. of carbohydrate, and 2¼ Gm. of fat, a total of 165 calories.

In addition, it contributes to the diet appreciable amounts of B-complex vitamins, and calcium, iron, and phosphorus.

Cereal breakfast foods are among the most easily digested foods, and are almost totally utilized by the body (98.7%). During war especially they should be served daily, in liberal amounts.

The presence of this seal indicates that all nutritional statements in this advertisement have been found acceptable by the Council on Foods and Nutrition of the American Medical Association.

CEREAL INSTITUTE INC.

135 SOUTH LA SALLE STREET · CHICAGO

A cooperative effort to present the nutritional value of cereal breakfast foods (natural whole-grain or enriched or restored for vitamins and minerals to whole-grain values), undertaken jointly by THE CREAM OF WHEAT CORP. ... GENERAL FOODS CORP. ... GENERAL MILLS, INC. ... KELLOGG COMPANY ... NATIONAL BISCUIT COMPANY ... PILLSBURY FLOUR MILLS COMPANY ... THE QUAKER OATS COMPANY ... CAMPBELL CEREAL CO. ... ALBERS MILLING CO.

How to BUILD UP Ration-Slim Menus with Enriched WHITE BREAD

(Cover of 16-page illustrated booklet in color offered by American Institute of Baking without charge. SEE COUPON BELOW)

Bread has long been recognized as a desirable foundation food . . . as one of the most economical of energy foods. This booklet presents it as a cooking "ingredient" to give a new build-up to salads and soups, main dishes, and desserts.

Twenty-one recipes from leading women's magazines show how enriched white bread can be used in making things delightful to look at, delicious to eat . . . and that *keep the budget down.*

To housewives who want new and different dishes that help save ration points, "New Glamour Recipes" is offered without charge. Send for your copy today.

American Institute of Baking

Department of Nutrition

10 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

ACCEPTED AMERICAN MEDICAL ASSN. Canned, Frozen and Dried Foods

SEND THIS COUPON

Please send "New Glamour Recipes," without obligation to me.

Name .....

Address .....

City ..... *State* .....

H 22

melting in a hot kitchen. Remove from the refrigerator only the amount which is to be used at one time.

A foreign flavor may develop in churning butter, although pasteurized milk and careful control give good flavor. Satisfactory aroma and flavor in butter are due to the presence of acetylmethylcarbinol, changed by bacterial action to diacetyl, which gives butter its characteristic aroma. Otherwise, it would be practically flavorless. Butter must be produced under clean conditions and kept clean and cold in the home.

SPOILAGE IN FRESH FOODS

An oxidation enzyme is present in all living cells, and the same process that causes growing food to ripen and mature continues after it is picked, causing it to soften and decay. Action can be delayed by storage at low temperature, or stopped by cooking. Dr. Fishbein states that "In the home the best rule to follow is one of the oldest hygienic laws that is known. Wash thoroughly or cleanse all fruits and vegetables before putting them on the table in raw or cooked form. Strip or destroy the outer layers of cabbage or similar vegetables. Also, wash your hands thoroughly before handling fruits or vegetables that are to be used on the table."

Judged by the home-washed spinach usually cooked and eaten, one might think that spinach is never thoroughly cleaned. But commerically canned spinach is free of sand, hence it must be possible to float the green leaves in vats of water, let the sand settle, lift out the spinach or turn huge jets of forceful water on the vegetable to rinse out the last bit of sand. We do not like the idea of eating sterilized sand, dirt or soil, even though cooking does render bacteria inactive.

Most people do not realize that celery may have on its surface the most dangerous types of bacteria found in the top soil, especially in those localities where outbreaks of botulism have occurred. There are also bacteria from the fertilizer used on the soil. Those vegetables which grow beneath the ground are more subject to such bacteria than ones that grow above the soil and are exposed only to dust-borne germs.

While the outer stalks or leaves of such vegetables can be discarded,

including any bruised portions of the vegetable, the remaining parts should not only be washed in water, but also scrubbed with a brush to loosen dirt which is not visible to the eye. A final rinse in fresh, running water from the faucet will accomplish satisfactory cleansing. Carrots should be pared, because dirt clings in the crevices. The curly leaves of kale hold dust which does not show.

INSECTICIDE SPRAY

Many fruits and vegetables must be sprayed while they are growing to protect them from insects or fruit moths. Residues from these sprays may remain on the foods as they are later distributed for consumption by the public. The spray material should be removed, of course, before the fruits and vegetables are sold. This is the common practice, but it is wise, nevertheless, for each consumer to wash the food again. Never pick fruit directly from the tree, or tomatoes from a garden, and eat them without washing.

The Council on Foods and Nutrition of the American Medical Association has set standards for the amount of such spray residues which may be present on foods when marketed, and has done much valuable educational work among those who sell foods. Accepted foods meet these standards. Dr. Fishbein says: "Experience has shown that dry wiping or brushing cannot be depended on to remove most of the residue from the spray." He advises peeling or stripping a vegetable before it is used, and washing and peeling apples with a clean knife before they are eaten raw. Each person can take this precaution himself.

Home-canned foods, especially the so-called nonacid foods, or those in which acidity is low, are subject to a type of spoilage particularly dangerous because it is not always recognized. Such foods should be heated immediately to the boiling point and smelled carefully. If they have an off odor, they should be discarded. If this rule is always followed in the kitchen, much food poisoning may be avoided. The homemaker herself should pass judgment on home-canned foods. This procedure is not necessary with commercially canned food, because it has not given any trouble for several years. Commercial can-

YOUR TOOTH CLEANSER

TWO THINGS should guide you in the selection of your tooth cleanser—its effectiveness in cleaning the teeth—and its purity. The correction of dental irregularities is not the function of any dentifrice. Dental ills should be diagnosed by the dentist and treated by methods and with preparations which he prescribes.

Arm & Hammer Baking Soda (or Cow Brand Baking Soda) is a good tooth cleanser to use regularly. It helps clean teeth effectively, aids in brightening them to their natural color, is pleasant to use, with a delightfully refreshing after-taste. Arm & Hammer Baking Soda and Cow Brand Baking Soda are among the tooth cleansers acceptable to the Council on Dental Therapeutics of the American Dental Association.

We think that after you have brushed your teeth with Arm & Hammer (or Cow Brand) Baking Soda for a week or ten days you'll like it so well that you'll make it your regular tooth cleanser.

Its cost is low—and a package will give you many weeks of brushings.

Business Established in 1846

CHURCH & DWIGHT CO., Inc.

10 Cedar Street New York 5, N.Y.

ning employs higher temperatures in processing food. It is possible, of course, to can safely at home with a pressure cooker and correct canning directions.

It is especially important to inform any one in the kitchen that any food which has an "off" or undesirable odor must be discarded. Many people think such food can be made safe by boiling it thoroughly, but this is dangerous. I believe that this common fallacy is probably more dangerous than other popular food ideas. If fermentation and gas appear, or if there is mold on top of the food, discard the entire can—not simply that part which appears spoiled.

DETECTING FOOD SPOILAGE

It is important to train yourself to detect odors accurately. This is your protection. The way to recognize odors is to heat the food and smell it when it first becomes hot. An odor is more noticeable when the lid is first lifted. The learning process is helped by making comparisons. Compare a can of luncheon meat just opened with similar meat which has been exposed several hours to the air at room temperature. With some people, failure to detect odors is not a matter of being unable to smell but of not recognizing and associating odors correctly. Never ask advice of some one who is untrained in handling foods, because his advice may be bad. If in doubt, discard the food. The sense of taste should be employed only when the food smells all right.

When food appears firm in texture and free from fermentation or mold when viewed under strong, direct light, the food is probably all right. There are, however, such things as defective vision and defective sense of smell. Many otherwise normal persons, in carefully conducted tests, demonstrate that they are unable to identify the primary tastes: sweet, sour, salty and bitter. These people do not know that their sense of taste is inaccurate.

At all times, food should be covered to protect it from invisible dust in the air, except when it is placed in a closed refrigerator or closed cupboard. In order to keep dust at the minimum, it should be remembered that it is never necessary to sweep the kitchen floor. Use an oiled dust mop, a cloth dampened with furniture polish, liquid floor wax, floor oil or water. Never allow dry sweeping, because this raises dust from the floor which settles on food, carrying bacteria. For the same reason, the table should not be set far in advance of mealtime, since this simply allows dust to accumulate on plates and in glasses, whence it is transferred to foods and beverages.

Any one who touches food should touch it only with clean hands—not just hands that look clean, but hands that are clean.

Hand washing is an important ritual, not only for the cook and waitress, but for the person who eats. It should be performed immediately before eating—not an hour before. Clean wooden toothpicks should be used to clean the fingernails. Any open cuts, burns or sores must absolutely be covered with a clean bandage. After scrubbing hands preliminary to work, a worker should keep the hands away from mouth, nose or contact with other parts of the body while he is handling food or utensils.

PETS AND PESTS

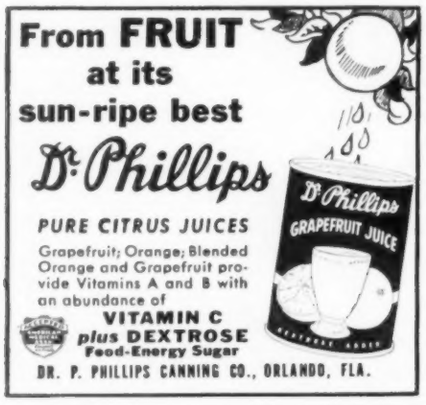
Whenever possible, it is wise to exclude dogs, cats and other pets from the room in which food is prepared. They may bring fleas or flies, as well as the germs they pick up on their paws.

Ants and other pests are apt to creep up on us unawares. Waterbugs thrive in a crevice where it is wet, as where the kitchen sink does not make a tight connection with the work table or wall. Thus a full-grown cockroach may make its appearance before the startled cook and cause consternation. There are definite ways to fight and conquer each pest, including mice and even rats. All are disease carriers and must be killed. The so-called housefly is one of the most common pests—and one of the worst from the standpoint of disease. There is a definite technic to fly killing. Whenever possible, flies should be eliminated before they enter the house by control of such items as spoiled fruit, which draws flies. Never swat a fly on any cooking utensil or dish without subsequently scrubbing and scalding the dish, or on food, such as bread, without discarding the food. The ideal place to kill a fly is on the window sill or in a corner of the window pane where he has sought sunlight. And the best way to kill him is with a soft piece of paper or tissue. Thus the hands are not soiled and the surface is not smeared.

SAFETY TIPS FOR DINERS OUT

1. Insist on cold, pasteurized milk.
2. Refuse wilted lettuce, soft fruits, unclean raw vegetables.
3. Look for dust on the surface of puddings or gelatin molds.
4. Avoid leftover dishes: hash, croquettes, "meat pies," etc.
5. Taste "cold plate" dishes to detect possible spoilage.
6. Avoid cream puffs especially in very hot weather.

—*Doris McCray.*



Mention HYGEIA when writing to Advertisers

The Newer Concepts of Meat in Nutrition

Meat . . .

Masterpiece of Nature's Laboratories

NO OTHER food has been endowed so lavishly by Nature as meat. Among protein foods it stands supreme; not only because its protein content is so high; not only because its proteins are so complete, of such high biologic quality; but also and mainly because it can be eaten daily without jading the appetite.

For vitamins, too, meat ranks high. It contributes important amounts of thiamine, riboflavin, niacin, and probably all the other components of the B-complex, all of them essential to nutritional well-being.

Minerals, also, are part of meat's natural endowment. Its content of readily available iron proves valuable in the prevention of nutritional anemia, and it is a rich source of copper and phosphorus.

The fats of meat, contained even in so-called "lean meat," are sources of the unsaturated fatty acids. Many scientific investigators consider these acids essential to human nutrition. As a source of energy these fats, like others, are high in caloric value.

For digestibility, Nature has really extended herself in meat. Not only is meat almost completely digestible (97% to 98%), but its extractives stimulate the flow of digestive secretions, thus aiding appetite and digestion in general.

Last not least, meat is notable for its satiety value. A meal built around meat as the main dish leads to a feeling of well-being and satisfaction.

Many other foods have been advocated as "meat substitutes." All of them may be good, nutritious foods. Yet no individual food can offer as much as meat, no other can rightfully take its place. In this emergency, with America and its future at stake, our fighting men must come first. But there is always some meat—and every kind of meat and every cut is the "masterpiece of nature's laboratories."

This Seal means that all statements regarding nutrition made in this advertisement are accepted by the Council on Foods and Nutrition of the American Medical Association.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

American Meat Institute

CHICAGO

UNCLE SAM AGAINST CANCER

(Continued from page 639)

ganized research by a group of workers trained in a variety of scientific fields is essential to the solution of this problem.

The growing cancer control movement in the United States was climaxed in the passage by the Seventy-fifth Congress of the National Cancer Institute Act, which was signed by the President on Aug. 5, 1937. That this legislation had almost universal approval was attested by the fact that all ninety-six members of the United States Senate attached their names to the bill creating the National Cancer Institute as a division of the United States Public Health Service. Never in the history of the Republic had the entire membership of either body of Congress sponsored a piece of legislation!

At the laying of the cornerstone of the National Cancer Institute at Bethesda, Md., nearly two years later (June 24, 1939), Surgeon General Parran said: "Because of the vision and foresight of our National Congress, and the generosity of a private citizen, Mrs. Luke Wilson, this beautiful building now stands before you on an imposing site. It is a matter of pride and gratification that we can say today: Nowhere in the world will you find in a single structure the equivalent of what is here provided, in physical equipment and facilities, solely for scientific research in a specialized field of medicine. . . . This institution will ever remain a symbol of the faith imposed by the American people in their Federal Health Agency —the United States Public Health Service. That faith is not founded upon the impressive aspects of splendid buildings but rather upon an unbroken line of achievement stretching back one hundred and forty-one years to the establishment of the Marine Hospital Service in 1798. Indeed, we of the Public Health Service can say with pride and reverence that this institution—this National Cancer Institute—had been made possible by the splendid work of our pioneer investigators, living and dead."

Under the provisions of the National Cancer Institute Act, a National Advisory Cancer Council was created consisting of six members, selected from the ranks of leading medical and scientific authorities, who are outstanding in the study, diagnosis or treatment of cancer in the United States. The Surgeon General of the United States Public Health Service acts as chairman of the council, ex officio. The membership of the council is a rotating one. The term of office of two members expires each year, and two new members are appointed.

THE NATIONAL ADVISORY CANCER COUNCIL

The council is authorized by the act:

(*a*) To review research projects or programs submitted to or initiated by it relating to the study of the cause, prevention or methods of diagnosis and treatment of cancer.

(*b*) To collect information as to studies which are being carried on in the United States or any other country as to the cause, prevention, and methods of diagnosis and treatment of cancer, and make such information available through appropriate publications for the benefit of public or private health agencies and organizations, physicians or other scientists, and for the information of the general public.

(*c*) To review applications from any university, hospital, laboratory or other institution, whether public or private, or from individuals, for grants-in-aid for research projects relating to cancer, and certify to the Surgeon General its approval of grants-in-aid in the cases of such projects which show promise.

TRAINING IN DIAGNOSIS AND TREATMENT

Section 5 (*b*) of the National Cancer Institute Act authorizes the Surgeon General: "To provide the necessary facilities where training and instruction may be given in all technical matters relating to diagnosis and treatment of cancer to such persons as in the opinion of the Surgeon General have proper technical training and shall be designated by him for such training."

Young physicians who are interested in cancer work as a career and who have had certain basic training may apply to the National Cancer Institute for financial assistance in obtaining special training offered by designated training centers.

Physicians eligible for training must be graduated from an approved medical school, must have completed at least one year of internship in an approved hospital, and must be less than 40 years of age. By way of preliminary training for cancer service, one or two years' experience in surgery is highly desirable. Appointments are made by the Surgeon General for one year and are subject to renewal if the trainee's work is satisfactory to the training center and to the National Cancer Institute.

From 1938 to 1942, inclusive, fifty-two physicians have completed training in the diagnosis and treatment of cancer in fourteen of our leading schools of medicine and six outstanding hospitals devoted exclusively to tumor and cancer patients. It is too early as yet to see the effects of this program on cancer service in general throughout the country, but it is believed that this work has tended to improve the quality of training in cancer diagnosis and treatment and has stimulated the efforts of tumor clinics to improve their service. The purpose of this postgraduate training is to meet, in part, the immediate needs of the cancer patient.

CHECK THESE SYMPTOMS

Certain danger signals pointing to the possibility of cancer should be investigated immediately by a physician. They are:

1. **Any lump or thickening, especially of the breast.**
2. **Irregular bleeding or discharge from any of the body openings.**
3. **Any sore that does not heal.**
4. **Persistent indigestion.**
5. **Sudden changes in the form or growth of a mole or wart.**
6. **Hoarseness persisting for more than two or three weeks.**
7. **Pain.**

COOPERATION WITH STATES

The National Cancer Institute Act authorizes and directs cooperation with state health agencies in the prevention, control and eradication of cancer. Accordingly, the National Cancer Institute provides consultation service to state health agencies requesting it and serves as a clearing house for information on state cancer control laws and programs.

POLICY REGARDING INVESTIGATION OF "CANCER CURES"

Many claims have been made and still are being made with respect to cures for cancer. Old preparations long ago discarded are offered to the public under new names. Some of these preparations, such as certain salves and pastes, may destroy external cancer, but they cannot destroy a cancer that has spread to the internal parts of the body, and they are often more destructive than necessary.

As yet no drug or preparation of any kind has been found that can cure all forms of cancer. The most successful treatment for cancer today involves the removal of the cancer by surgery or destruction of the cancer by x-ray, radium or electrocautery. In many cases x-ray or radium is combined with surgery. In any case complete removal or destruction can be hoped for only in case the cancer is subjected to treatment in its early and local stages. In the advanced stages the best that can be done (in most cases) is to check in some degree the course of the disease, ameliorate the symptoms, and prolong life. At the present time the diagnosis and treatment of cancer require organized, cooperative services—pathologic, surgical, and radiologic—and special equipment.

The National Cancer Institute has not adopted rigid rules in regard to support of search for new ways of treating cancer or in regard to the approval of testing of treatments and "cures" advocated for cancer. Each formal application for aid is referred to the National Advisory Cancer Council where it will be considered on its merits. Obviously, serious attention cannot be given to requests for testing new forms of treatment unless the following requirements are met:

(1) The method of treatment must be explained fully. There must be no secrecy whatsoever in regard to the composition or the nature of the treatment.

(2) Complete clinical records must be submitted of a suitable number of cancer patients, treated with the remedy or method in question under competent medical supervision, and in each such case the diagnosis of cancer must rest on competent and verifiable microscopic examination.

In answer to inquiries, the National Cancer Institute will furnish any factual information in its possession in regard to so-called cancer cures and to the established methods of treating cancer.

THE LOAN OF RADIUM

Under the provisions of the National Cancer Institute Act, the Surgeon General of the United States Public Health Service is authorized to purchase radium and to make it available on loan to institutions, including hospitals, for cancer research, or for the actual treatment of cancer.

In 1938, the Institute purchased 9½ grams of radium, including the platinum-iridium needles, cells, and cylinders, at a cost of $200,000. Eight grams have been used for loans, 1½ grams being retained for use in the Institute's own research work. Fifty-four hospitals have had the advantage of this loan service to date. As funds become available and the need arises, more radium will be purchased. It should be understood, however, that radium is not loaned unless an institution can meet certain requirements as to qualifications of the personnel, equipment and organization. The importance of this function of the Institute can be appreciated readily when we consider the opinion of some to the effect that, when the act was passed, the United States possessed only about 50 per cent of the radium needed for research and treatment of cancer. It has been estimated that the entire country has about 200 grams of radium for medical purposes.

GRANTS-IN-AID

On the recommendation of the National Advisory Cancer Council, grants-in-aid amounting to $376,323 have been paid to twenty-four institutions and individuals since the passage of the National Cancer Institute Act.

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AMERICAN MEDICAL ASSOCIATION
535 North Dearborn Street . . . Chicago, Illinois

HELP FOR DELINQUENT GIRLS

(*Continued from page 649*)

supervision of a religious counselor, and Church services may be attended according to individual preference.

Vocational training starts in the cottages, where matrons instruct the girls successively in kitchen, pantry, dining room and housekeeping duties. Later, girls are selected—partly on the basis of classification interviews with school officers, partly by choice—for further work in the school laundry, cannery or beauty parlor, on lawns or gardens or the adjoining 160 acre farm. "Actually, vocational training is the foundation on which the whole school program is built," says Managing Officer Elizabeth H. Lewis. "It not only provides the girls with the means of earning a living when they're paroled, but chiefly it contributes to self respect and helps to combat the feeling of inferiority which is so noticeably a part of the personality pattern of all our girls."

In one cottage, the matron has organized handicraft classes with gratifying results in terms of interest and enthusiasm on the part of the girls—a retarded Negro group. A full time occupational therapist supervises individual handicraft projects for girls referred by the psychologist or the state psychiatrist who comes to Geneva one day a week for consultations.

With good behavior, girls are eligible for parole after nine months—three months each in probationary, junior and senior groups distinguished from one another by enlarged privileges in such matters as receiving mail and visitors, attendance at movies, recreation hours and school functions and participation in other desirable features of campus life. Each period is subject to prolongation for disciplinary infractions. The fact that the average term is lengthened by such infractions from nine to more than eleven months suggests the pervasive presence of the most vexing problem faced by school authorities—discipline. Among girls who, for the most part, have grown up without adequate home training, or, at best, with only random discipline from ignorant or indifferent parents, it is understandable that respect for authority and consideration of others should be conspicuously missing. Impudence and disobedience are characteristic, defiance and destructiveness by no means rare. Yet school officials know that unless they can teach proper behavior, no amount of education or vocational training will accomplish what they are striving for: to equip the girls to lead normal, useful lives in society.

Generally speaking, discipline at Geneva is based on the privilege system; privileges are extended for good behavior and removed for violations. Severe infractions are punishable by assignment to a special cottage where all privileges are removed and activity is sharply restricted to necessary school and work programs. The girl who is "on punishment" remains in her room when she isn't in class or at work; she may not display her junior or senior pin; she wears a plain work dress instead of the bright print which is ordinarily her garb on the campus; she may have no visitors or packages; music lessons are suspended; meals served her are minus desserts; her permanent wave—a cherished goal—is postponed. Lesser violations may bring confinement to her room in the girl's own cottage or removal of one or more privileges, according to the nature of the offense. Minor discipline is in the hands of the cottage matron, but cases calling for more than a day's confinement revert to the Managing Officer for decision. "The matron is the most important person in our process," Mrs. Lewis says. "To be effective, discipline must be immediate. The girl must understand exactly what she has done wrong and exactly what is being done about it."

> "War has . . . intensified and aggravated the problems that youth faces, and has made the solution of these problems more difficult."
>
> —*National Recreation Association.*

Every three months, each girl's school, work and disciplinary records are reviewed at a classification interview with staff officers. Here the Managing Officer, the physician, psychologist, social worker, school principal and placement officer study the girl's previous history and discuss her work and behavior with her matron, making suggestions and recommendations. Then the girl herself is called. In the ensuing interview, Mrs. Lewis praises her accomplishments, frankly points out her shortcomings and gives the girl a chance to make comments or ask questions. Invariably, girls whose behavior is bad complain that they are being picked on and ask to be transferred to another cottage. In each such case, Mrs. Lewis tries patiently to make the girl see that her own behavior sets the standard for her treatment, and that the transfer would accomplish nothing. Habitual offenders, Mrs. Lewis acknowledges freely, probably gain little either from the discipline or the discussions. Thirty-five or 40 per cent of Geneva's girls, she feels, are practically beyond redemption when they come in. "The pattern of emotional instability expressed in antisocial behavior is too firmly established for us to break it," she says. "Already, we're too late. But we keep trying, and once in a while the result surprises us. And of course the other girls—those who can be helped—benefit tremendously."

Case histories of Geneva girls have a disheartening similarity. A recent survey of 312 cases revealed exactly 10 girls whose natural parents were living together at the time of the girl's commitment! Broken homes, poverty, indifferent or hostile step parents or foster parents, sexual promiscuity of one or both parents or step parents, alcohol or narcotic addiction—these are all a part of the common background. Lying, truancy, stealing, drinking and sex offenses are the usual milestones along the road a girl has taken to Geneva.

The case of Dorothy G., an incorrigible, is typical. Dorothy's father deserted when she was a baby; her mother had lived with a series of men—some bad, some worse. Drunkenness, profanity and violence were her early surroundings. School was an occasional,

He can't protect himself

LITTLE children under 5 suffer the highest death rate from diphtheria . . . one of the biggest causes of baby deaths under 1 year is whooping cough.

Yet most mothers think they can wait to immunize their children "till they go to school."

Do *you* know when you should protect your child against smallpox, diphtheria, whooping cough, scarlet fever, and lockjaw? Do you know how soon this protection "wears off" and at what age re-immunization should take place to assure the highest possible protection?

THESE ARE THE DISEASES *you can protect your child against* . . .

Smallpox: More cases were reported in the U. S. in 1942 than in any other country except India! Immunization is practically *sure* protection.

Diphtheria: One of the most dreaded of children's diseases. Yet it has practically been eliminated in certain communities where widespread immunization has been carried out.

Whooping Cough: Causes four times as many baby deaths under 1 year as scarlet fever, diphtheria and measles combined. In recent studies, immunization appeared successful in about 75% of the cases.

Scarlet Fever: Immunization in the presence of an outbreak usually prevents or minimizes the seriousness of this disease.

Tetanus (lockjaw): May develop from a *dirty* wound. Immunization gives practically 100% protection.

THESE ARE THE AGES *when your child should be protected* . . .

3 to 12 months is the right age for smallpox protection. In no case let this go beyond the first year.

6 to 9 months is the right age for immunization from whooping cough and from diphtheria. In modern practice, tetanus immunization is often combined with the diphtheria inoculation.

After 18 months immunization for scarlet fever should always be considered if the "Dick Test" shows that your child is not naturally immune.

At 6 years or over. Immunization usually begins to wear off after about 5 years. So at 6 years consult your physician about re-immunization. Ask then about protection from scarlet fever and typhoid.

At 12 years. Consult your doctor again. Keep your child's immunization up to date.

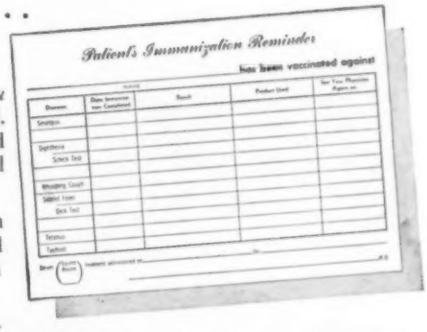
Most mothers in the United States "believe in" immunization, a nation-wide survey shows—but few of them know what diseases *they can protect their children against . . . and very few of them know that protection should start in infancy.*

Keep your Child's Record . . . *it may mean life or death*

Early immunization is not compulsory so *you* have the responsibility of protecting your child. *Don't wait* until he goes to school and is exposed to hundreds of other children. *Don't wait* until an epidemic has started.

His health or his life may be dependent on your remembering *what* he should be immunized against, *when* he should be immunized and when he should be re-immunized.

Ask your doctor for an Immunization Reminder Card for your child. You probably have pasted on the door of your car a sticker to remind you when to renew the oil and clean out the crankcase. Your child's Immunization Reminder Card is a thousand times more important! *Keep it where you will be sure to consult it at least twice a year.*



Ask your doctor for this free reminder card. These cards are supplied to physicians by Sharp & Dohme. A folder discussing immunization is also available upon request to interested individuals or groups. Write to Sharp & Dohme, Box 7259, Philadelphia 1, Pa.

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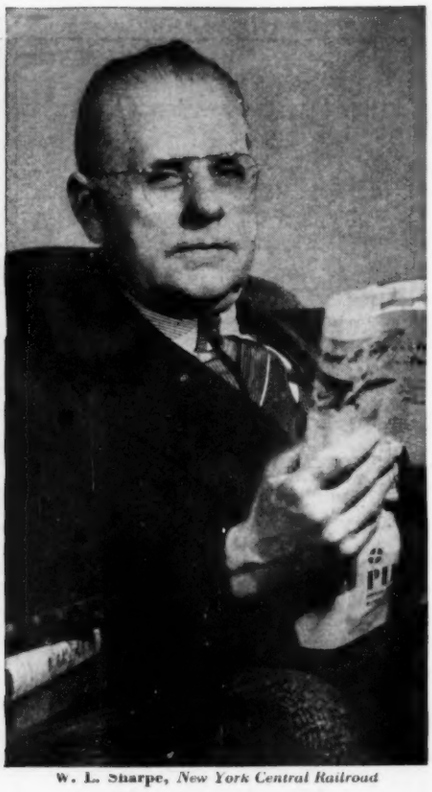
haphazard experience. Religious training was absent. At 12, Dorothy had her first sexual experience—with her mother's common law husband of the moment. Others followed. At 14, she was picked up with a gang of hoodlums for whom she acted as lookout on robberies. Committed to Geneva, she ran away at the first opportunity. She was quickly caught and returned, boasting of intimacies with a dozen men during the week she was gone. At Geneva, her school record was good (she had a better than average IQ), her work record was satisfactory, her behavior atrocious. She snapped at matrons, officers and other girls. Confined to her room, she broke up the furniture. She incited other girls to exhibitions of defiance. And at her classification interview she complained bitterly that every one had it in for her!

"We can't do anything for Dorothy," Mrs. Lewis explains. "Actually, she shouldn't be here, since she simply makes it harder for us to get results with the girls who can be rehabilitated. For Dorothy and others like her, we're largely a detention agency—the harm they can do is kept at a minimum here."

It's girls like Wilma who make Geneva worth what it costs the taxpayers of Illinois to keep it going. Outwardly, Wilma's record isn't much different from Dorothy's, except that it's shorter. The same broken home is there, the same lying, truancy, drinking, promiscuity. But Wilma was lucky enough to be caught earlier, and the psychiatrist can find in Wilma some evidence of real affection from her mother that doesn't appear in the records—and was entirely missing in Dorothy. At school, Wilma is a good girl. She takes a real interest in her work and her appearance. She's polite and considerate. She responds to the kindness that's shown her. Wilma will be ready for parole soon. She's learned to be a beauty operator, and as soon as the placement officer can find her a home with suitable people and a job (both are prerequisite to actual parole), Wilma will rejoin the society that gave her such a poor deal as a baby. The chances are that she'll get married and raise a family, and she'll do a much better job of it than her own mother did.

But Dorothy and Wilma are extreme types. Neither one is truly



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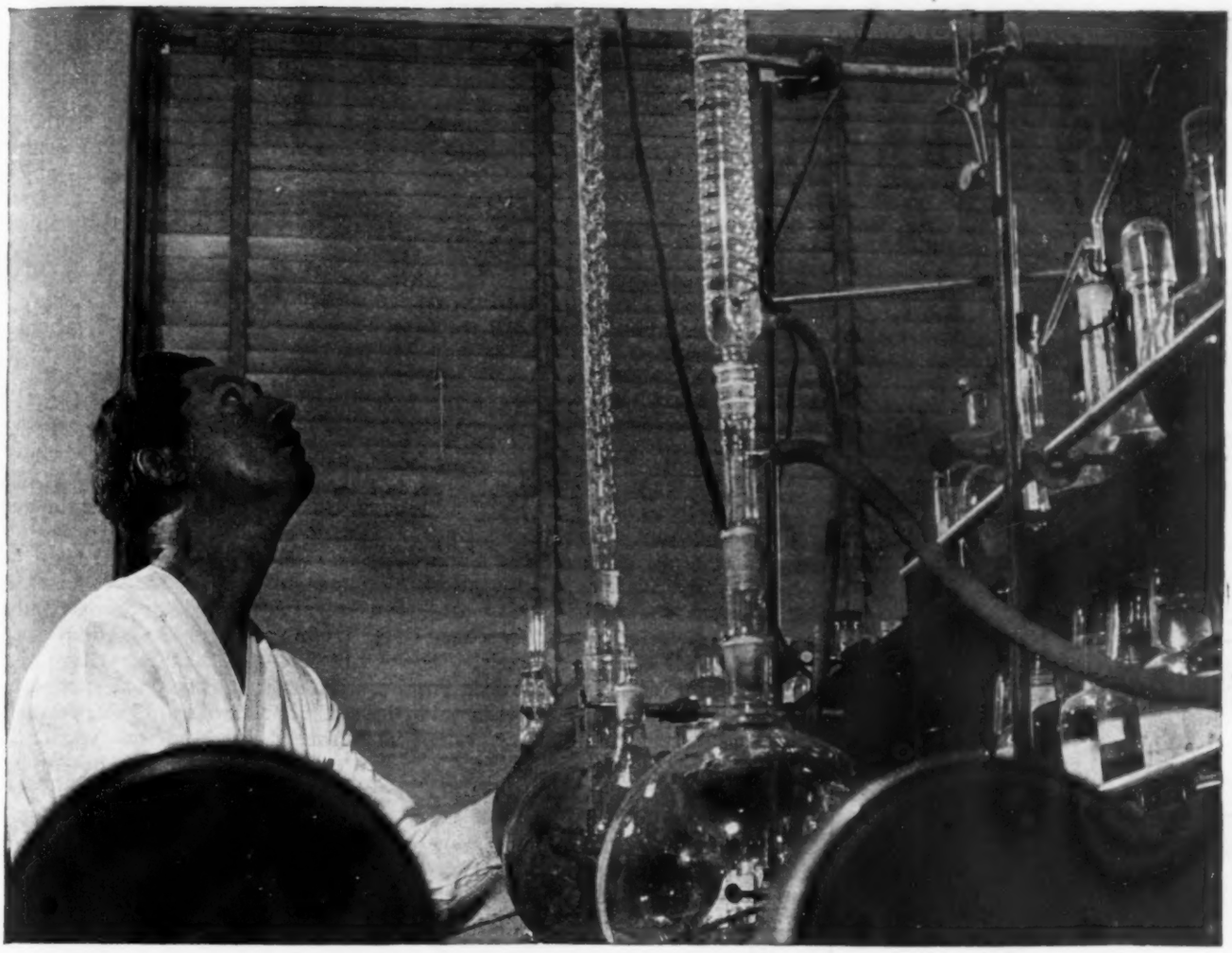

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representative of the whole group, nor even of the "bad girls" and "good girls." For there are possibilities that keep appearing among the girls who have to be disciplined, and there are frequent backsliders among the good girls. That's why Mrs. Lewis, who was appointed to Geneva two years ago by Governor Dwight H. Green after twenty years of experience in welfare work in Illinois, keeps on experimenting. Many of her experiments fail, but she keeps trying out new ideas and encouraging her staff to suggest new privileges, new disciplinary measures, new work programs and activities—hoping to develop formulas that will increase the school's yield in mended lives.

Some of the new ideas have worked successfully from the start. For example, in her constant search for the means of bolstering the bruised self esteem that is characteristic of Geneva's girls, it occurred to Mrs. Lewis recently that work opportunities need not be confined to the school campus. She knew that Geneva factories were short-handed and plagued with labor turnover. Why not get them to employ her girls—at regular hourly wages? For the employer, it would be a source of labor. From the school's standpoint, it would help to accomplish several aims at once. Commercial employment would contribute more to the girls' self respect than "made work" at the school. Working outside while still living at school would be a desirable intermediate step in the sudden transition from confinement to freedom which Mrs. Lewis feels is partly responsible for the fact that upward of 40 per cent of paroled girls violate their parole and are sent back. As an earned privilege possible of attainment only through good behavior, outside work could be made a powerful factor in the disciplinary program. Finally, the girls' wages could be put into trust funds payable after enough time had elapsed on parole to demonstrate good intentions; the accumulating fund would give each girl a feeling of independence while she was still in school and provide her with a nest-egg well worth having on the outside.

That's the way it's working out. So far, Mrs. Lewis has persuaded three employers in the Geneva area to give her girls jobs. The employer agrees to pay prevailing rates and guarantees that Geneva girls will get the same treatment in every respect as that given other employees. Moreover, employers have asked the girls to report any ill treatment or discrimination by other employees; in several months of operation under the arrangement, no such incident has been reported. Only seniors with good records are allowed out, but the whole school knows about and is eager to participate in the program, and Mrs. Lewis looks forward to its establishment as an integral feature of the entire disciplinary and vocational system. "Some day," she says, "the state will provide a 'halfway house' for these girls to live in during the important transition period. Thus they'll benefit not only from outside work but also from living conditions that are less regimented than ours have to be. When that time comes, violations of parole will diminish to the vanishing point and one of our most discouraging problems—the repeater—will be largely solved."

Also a part of Mrs. Lewis' vision for the future are separate institutions for the various types and degrees of offenders. "It's impossible here for us to prevent some mixing of Dorothys and Wilmas," she explains, "and the state has to pay—in more and longer confinements—for their association. We can reclaim many more lives for society if society will implement our work with proper laws." Wherever she goes, Mrs. Lewis talks about her dreams and preaches prevention. "Our girls never had a chance," she tells women's clubs, ministerial associations and civic groups up and down the state. "They are the product of our failure to maintain homes, and until our Churches, family welfare associations and other social agencies can check the growing tendency of homes to break up and families to drift apart, we're going to have delinquency." But, Mrs. Lewis firmly believes, by attacking the problem both ways—with support for the family on one hand and more intelligent provision for wayward girls on the other—the problem of delinquency can be solved. For all the handicaps under which it works, the school at Geneva today is proof that she is right.

QUESTIONS AND ANSWERS

Vegetable Juices

To the Editor:—(1) I understand that calcium is made useless in the body if oxalic acid is present in food or in the body. I also understand that spinach contains oxalic acid. In view of these facts, would it be considered unwise to use raw spinach juice in combination with raw carrot, turnip or watercress juices, consumed at the rate of one pint per day as tumor treatment? Could the oxalic acid in the spinach juice make the calcium in the body useless?

(2) Could large amounts of cooked or raw spinach form oxalic acid crystals in the kidneys?

(3) Phosphorus is not used when there is an excess of iron. Calcium is not used unless there is an equal amount of phosphorus. Too much magnesium interferes with calcium. According to these statements, would celery juice, which is high in magnesium and iron, be harmful to the teeth by interfering with the supply of calcium?

(4) Is there anything harmful to any part of the body in a combination of raw carrot juice, raw beet juice and raw cucumber juice?

(5) What causes the yellow discoloration of the skin when one takes raw carrot juice? Is this a permanent discoloration?

E. Y., Michigan.

Answer.—It is true that spinach contains a certain amount of oxalic acid, but this is promptly eliminated through the kidneys. Eating spinach will not deprive the body of calcium or injure the bones or teeth.

If you like such outlandish combinations as carrot juice, spinach juice, turnip juice, beet juice and watercress juice, they will do no harm—nor will they do nearly as much good as eating all the vegetable instead of simply drinking the juice. Eating the vegetable—raw or cooked—is better than drinking the raw juice. You have obviously been deceived by the claims of food faddists, which *The Journal* of the American Medical Association once characterized editorially as "Raw Claims for Raw Vegetables." The "health food cafeterias," the "raw vegetable juice bars," and the health food stores which sell all kinds of weird combinations with astounding claims have victimized millions of good people who have mistaken false science for the real thing.

Referring to the fourth question: By what possible stretch of the imagination could the raw juice of such perfectly good vegetables as carrots, beets and cucumbers be thought harmful?

In answer to the fifth question, the yellow discoloration of the skin from carrot juice is not permanent nor apparently harmful, but it does indicate an overdose of carotene, the substance from which vitamin A is made. There is no point in such an overdose, and, again, the whole vegetable is more valuable than the juice alone.

The third question, in which worry is expressed about the relationship of phosphorus, calcium and magnesium, is another instance of unreasonable concern. Any combination of foods including plenty of milk, fresh or canned fruits and vegetables, whole grain cereal and enriched bread will provide satisfactory nutrition.

The most serious point in the letter is the indication of a belief that combinations of raw vegetable juices, consumed at the rate of a pint a day, constitute "tumor treatment." It is bad enough when people are deluded into upsetting all reasonable ideas about food, but when vegetable juices are exploited as treatment for tumors the situation is appalling. By no possible means can the taking of raw vegetable juices, in any combination, constitute treatment for tumors. Tumors must be removed by surgery, x-ray or radium—or a combination of these procedures.

Cocoa for Children

To the Editor:—My three children, aged 6, 11 and 13 years, often get tired of plain milk and like cocoa—especially in winter. I had always thought it good for children and thought milk in cocoa was as good for them as plain milk, but recently I was told that in cocoa some of the valuable content of milk is lost, making cocoa more harmful than helpful to children. I know cocoa contains a small amount of caffeine, but I did not know this would hurt children's growth. Does cocoa destroy the calcium in milk?

In summer we use cow's milk and sometimes the children drink cocoa, but in winter we use canned milk and they drink cocoa every day. If cocoa is harmful, what about "chocolate milk?"

O. C., Louisiana.

Answer.—The question of giving cocoa to children has been somewhat confused. It is true that cocoa has perhaps been given too much to children in the past. Excessive chocolate is not good for them because of its high fat content, which some children cannot tolerate. It does not, however, contain caffeine. It contains theobromine, which is closely allied to caffeine but is much less stimulating. Cocoa does not in any way injure the milk.

After the age of 2 or 3 years, there should be no harm in giving children cocoa two or three times a week, if it is not made too strong—that is, not stronger than a level teaspoon of cocoa per measuring cup of milk.

There is little difference between chocolate milk and cocoa. Many commercial chocolate milk drinks are made with skimmed milk and are therefore deficient in butter fat as compared with drinks made from whole milk—such as home made chocolate milk or cocoa.

Pasteur

To the Editor.—What was Louis Pasteur's greatest discovery?

E. T., Illinois.

You can look attractive and feel fit in wartime...

WITHOUT ELASTIC GIRDLES OR THAT "STRAPPED IN FEELING"!

Naturally you want to look your best in wartime. It's part of a woman's job! You can look your best and feel your best in a beautifully fitted, individually designed Spirella! No elastic, no constricting belts or gadgets. Spirella supports because it is made for you, and for you alone!

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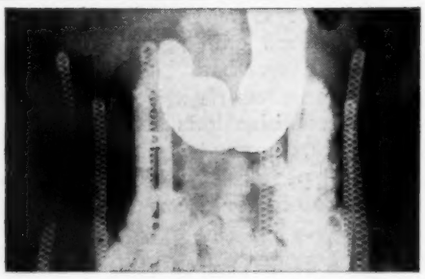
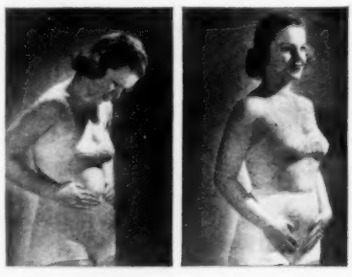
X-ray above shows how constricting binding pressure of an ordinary corset crowds stomach and internal organs down. No wonder you are uncomfortable!



This X-ray shows same woman in her Spirella. The natural support raises her stomach almost 3 inches—relieves stretched muscles, protects health, restores youthful figure!

Make this easy test tonight! Try this test tonight when you undress for bed. Press down on your stomach. That's the feeling of a constricting corset. Then lower your hands and lift. That's the kind of comfortable natural support you get with a Spirella. First thing tomorrow, call the Spirella figure support expert in your community. Let her show you how a Spirella feels with the Patented Spirella Modeling Garment. At the same time she can take accurate measurements for your own individually designed Spirella. Call her today or mail the coupon!



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Answer.—It is difficult to designate any one of Pasteur's discoveries as the greatest. He discovered how to prevent rabies and thus saved the lives of many human beings and of their pets and valuable live stock. He discovered the cause of silkworm disease and saved the silk industry of France. He discovered why wine turns sour and saved the wine industry.

Perhaps the greatest of his discoveries is one about which little news has been published. It was his first realization that fermentation takes place in foods which are exposed to contamination from the air. Once he had established this fact, the rest of his discoveries were based on it.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

Medical Men

(Continued from page 630)

this knowledge may save a life!" The remarkable record of our medical department personnel in this war is the living testimony of the effectiveness of the teaching.

By 1944 many thousands of physicians will be in the armed forces. The call on the medical profession has drained its resources so that the old rubber stamp about "scraping the bottom of the bucket" is literally true as applied to the supply of physicians. The medical profession began an inventory of its assets long before Pearl Harbor. The medical care of men in training and in the field demands much more than just the doctors. Medical units must be fed, housed, transported, recorded, cared for in health and in illness, just as are all other troops. Their special duty is salvage of the wounded. All these tasks require that the medical department include a variety of specialists in every field. On the medical department also rests administration of hospitals, permanent and mobile; sanitation in the field and in camp; representation on a host of examining and judging boards; food inspection; the veterinary and dental problems and

many others. Early it was seen that a great expansion of nonprofessional, technically trained men would be needed. Three medical replacement training centers were constructed and put into operation for the medical department in 1941—Camp Grant, Illinois; Camp Lee, Virginia; and Camp Barkeley, Texas. In 1942 a fourth center was set up at Camp Joseph T. Robinson, Arkansas, and the Camp Lee establishment was moved to Camp Pickett, Virginia.

For these medical department men there must be specially trained officers. Many of the responsibilities formerly placed on physicians may be delegated to well-trained men who have not had previous medical training, if they have had certain technical experience, and if they possess the qualities of leadership, organizational ability and drive that make men capable executives. For such training a medical administrative officer candidate school was started at Carlisle Barracks, Pennsylvania, in July 1941, and another at Camp Barkeley in April 1942.

A few months ago I visited Camp Grant at Rockford, Illinois. With Brigadier General John M. (Mitch) Willis, I tramped the corridors of hospitals and school buildings, saw the obstacle course where medical department men learn to crawl on their stomachs under barbed wire to rescue the wounded, learn to carry a litter with a groaning, shattered patient, over fences and rocks; learn to scale walls, and transport an injured man down the side of a cliff; sit for hours fixing in their minds the courses taken in the body by arteries and veins and nerves; "pressure at the right point soon enough may save a life!" Some months ago at El Paso in Texas with Colonels Horace S. Villars and George M. Edwards I saw two trucks drive up; a group of medical department men under an efficient officer leaped out; in twelve minutes a lead-lined room with a modern x-ray apparatus, ready to function for the detection of broken bones or pieces of shrapnel or bullets deep in the tissues, was available for operation.

"Mitch" Willis of Camp Grant and Brig. Gen. Roy Heflebower of Camp Barkeley are disciplinarians second to none; their medical department soldiers and officers observe strict military form; leaders learn to speak strongly and with authority; they come from the school with the confidence and cool calm that makes them superb under fire, steady in disaster; intent only on the mission of mercy that is the whole purpose of the medical department.

The record of the Medical Department Replacement Training Center is most enviable and justly so. The qualities of leadership developed in the Officer Candidate School and in the officers and noncommissioned officer cadre of the Center and the reputation made by the enlisted men who have been trained here have led to an outstanding record—a challenge to any military command. The venereal disease rate is far below the aver-

Brig. Gen. Roy C. Heflebower
Commanding Officer
Medical Replacement Training Center
Camp Barkeley, Texas

age, as is the AWOL rate; records of company punishment and courts-martial are surprisingly low.

Already officers of the Medical Administrative Corps are serving as medical supply officers, handling billions of tablets of sulfa drugs, of atabrine for malaria, millions of pints of blood plasma for transfusion, operating room equipment, bandages, clothing and all the other highly specialized paraphernalia of medical service.

Officers are being trained as registrars, who have charge of all the medical and surgical records and who see that names and accurate histories are kept of every patient. The registrar prepares the reports concerning the sick and wounded. He takes care of the money and valuables of the patients. His work is vital because every postwar claim for a pension, every complication that may develop in future years to trouble the health and life of a former soldier demands a study of his health record in training and in battle.

Other medical administrative officers act as detachment commanders and as adjutants. Some take the responsibility for handling personnel exactly as would the personnel manager of a great industry. Many of the men in the Officer Candidate School who show special ability as teachers are assigned at once to a place on the faculty so that they may convey to others the lessons that they have so well learned.

When a unit goes into battle, the medical department moves up along with the troops. Out in front is the company aid group, accompanied by a litter bearer group. These are the men who pick up the wounded, administer first aid, apply the first dressings, do the immediately necessary procedures that nonmedical men can do. They are accompanied by a battalion aid station group which includes medical officers; thus the entire outfit would comprise both physicians and enlisted men. Each of the litter bearer platoons must have a leader. Each of the ambulance groups must have a leader. For all these positions men are especially trained in the Officer Candidate School and at the Medical Replacement Training Centers. The programs of instruction vary from twelve to sixteen weeks. Then the men are sent to medical units, where they continue their training with the organizations to which they are assigned.

When I visited Camp Barkeley in July, Lieutenant Colonels Wergeland and Zimmerman took me through building after building, labeled Clerks School, Chauffeurs School, Mechanics School, Cooks and Bakers School and Sanitary Technicians School. Again let me emphasize that the medical department has to train men for its own special jobs; the driver of an ambulance must know his motor as well as the doctors know the interior of the bodies of the men in the ambulance. He must be ready to undertake in the field and under fire almost any type of repair—many a motor job that would stagger the average mechanic in an urban garage. The clerks must learn the whole nomenclature of military medicine. The sanitary school means the building of all those facilities necessary for cleanliness of the human body and the disposal of human wastage. On these men may rest the prevention of an

epidemic that might be more devastating than the bombs or the bullets of the enemy.

If you see on the train or in the USO a man with the caduceus of the medical department on his uniform, do not reach the conclusion that he is a doctor. Don't ask him embarrassing questions that only a doctor ought to answer. He is in the life-saving profession because he has been through the kind of training that I have described. The caduceus means that because of his training a doctor has been made available to some unit of men at the front who otherwise might have had to be without one.

OFFICER CANDIDATE SCHOOL

Men are chosen for the Officer Candidate School from the medical units. The officers who have gone out from the schools that have been mentioned may have opportunity to go much further. The enlisted men who have first had training in a Medical Replacement Training Center, when they get out in the field, may demonstrate special qualities which will cause their officers to select them as suitable timber for Officer Candidate School. Applications are submitted to an Officer Candidate Board, which studies the application to determine the previous education, experience or prior service which will qualify a man to take the advanced course of instruction. Then he appears personally before an Officer Candidate Board; if his personal interview is satisfactory, he goes to the Officer Candidate School. At Camp Barkeley, Texas, Brigadier General Heflebower pointed out men who had been with the medical department in the South Pacific and in North Africa and in Alaska, and whose records had qualified them to be sent all the way back to Camp Barkeley, Texas, so that they might take the training in medical affairs and in leadership which would qualify them for the insignia of an officer in the Medical Administrative Corps. When they graduate, they are appointed second lieutenants and are assigned to duty in medical installations.

General Heflebower has pride in his school; he knows his men; they are not to him just the material of warfare. He is quick to recognize special qualifications, alert to praise or condemn as either is needed. The proof of the quality of his school lies in the almost universal success of its graduates.

My work has led me into many a college and university where I have seen at first hand the system, the discipline, the quality of the teaching, the equipment and the other factors that make an institution of higher education. Under Colonel Armstrong, immediately in charge of the Officer Candidate School at Camp Barkeley, the school functions in a manner that would bring joy to many a college president. Emphasis is placed particularly on the quality of leadership, on personality and on the completion of basic military training. In the headquarters of the school

Col. George E. Armstrong
Assistant Commandant, Officer Candidate School, Camp Barkeley, Texas

records are kept at almost hourly intervals of the progress made by each of the men in class work and in the field. Each entering class of 500 is divided into two equal companies; these are reorganized into five platoons. The platoons are broken into sections, which constitute the classes. The men are under the observation and supervision of the platoon leader at all times except when actually in class. The platoon leaders are their instructors. At intervals the men are selected to command their platoons, companies and simulated battalions; thus they learn self confidence and leadership. Under the careful supervision of their commissioned company officers, they are studied as to their military bearing, judgment, tact, military knowledge and capability to command. Discipline is rigid.

The classes cover such subjects as administration, tactics, logistics, sanitation, cooperation with the infantry and chemical warfare service, and many similar subjects. There are frequent written examinations, oral quizzes, recitations and then practice in the field, over and over and over again, until the candidate comes forth capable of assuming any of the many different positions of leadership in relation to the work of the medical department at home and abroad that has been described.

BIVOUAC AND FIELD EXERCISE

The climax of the training at the Medical Replacement Training Center at Camp Barkeley is the five-day bivouac and field exercise. The medical soldiers leave their barracks and march in a forced march, exactly as they might at the front, over the roads, the hills, the dusty plain and through the woods of west Texas. I saw a battalion that had marched eighteen miles at night, set up its tents, had breakfast and gone into action. The area simulated a battlefield; the medical soldiers had erected and were operating a complete evacuation system for an infantry division. They were practicing all that they had been taught about bandages, medical records, scouting, patrolling, self-protection, camouflage, and the other subjects of their basic training. They were digging fox holes, making sanitary installations, learning to live and to work in the field as they would in combat. Every medical soldier must work in each of the various jobs—litter bearer, company aid man, fox hole digger, and technical assistant in one of the medical installations. Some of the men have to serve as "casualties" at some time during the week, and they seem to enjoy it. They find out how they themselves would be treated if they were being evacuated from a combat zone. Realism is injected at every opportunity. This is accomplished by the use of moulages simulating various types of wounds. A short experience as a "casualty," being carried on a litter or in an ambulance, receiving treatment for shock, being bandaged or splinted, teaches a man to have a high regard for a wounded soldier. Among doctors they say every doctor is a better surgeon for his patients after he has had an operation on himself.

These men are physically and mentally conditioned for battle; physically by calisthenics (of a new Commando type), forced marches and mass athletics; mentally by negotiating the Infiltration Course where live machine gun ammunition is fired over crawling men and explosive charges of dynamite are detonated to simulate mortar fire to accustom the mind to the sound, shock and sight of battle.

When I got to the first aid station in the woods near Abilene on a hot day in July, the problem of evacuating the wounded had already begun. Men who were acting the part of injured soldiers were scattered through the brush. They had been "decorated" by the art department with painted wounds or plaster models indicating the nature of the conditions from which they were supposed to be suffering. One said "C. F.—Left femur," meaning a compound fracture of the large bone of the thigh on the left side. Another was "G. S. W.—Pen.—Chest," indicating a penetrating gunshot wound of the chest. The wounded were picked up by the litter bearers or, when capable, were walking—ambulatory—by themselves into the first aid station. Here they were recorded by clerks who indicated the nature of the wound and the kind of treatment first given. A permanent record is kept, and another goes with the man from that time onward. Those suffering from shock were placed in the recumbent position on stretchers with the head low, and simulated treatment involving injection of a narcotic and blood plasma transfusion was being given. The ambulatory patients move along definite lines toward collecting stations and clearing stations. The ambulances, which have been well camouflaged—so well that it was impossible to see some of them at distances of 5 to 10 yards—were called into action to transport the seriously wounded. The speed of evacuation in this war is one of the factors that has made the percentage of deaths from wounds less than one-sixth the number that prevailed in World War I. A thorough knowledge of the complete system makes the medical soldier efficient in getting the wounded men to medical installations in the rear of the division area.

The cooks and bakers were cleaning up from breakfast and preparing the noon meal out in the field. It was not measured by ration points, and it tasted good. Its proteins, carbohydrates, fats, mineral salts and vitamins were adequate. The field sanitation experts had installed all the necessary facilities—incinerators for garbage, latrines, and washing equipment. They were eliminating insect pests that annoy the wounded and carry infection. The clerks and all the other specially trained medical soldiers, the motor corps, the signal corps and others were attending to their duties. So perfect was the order that the system moved with the efficiency of a well oiled and well regulated machine.

As a patient is brought in on a stretcher, a new stretcher is turned over to the litter bearers. There is continuous exchange of equipment so that supplies at the front are kept at the maximum. I was pleased to see the practice bandages, as they were removed, being carefully rerolled by the "patients," who were not otherwise occupied, so that the bandages would be available for additional practice in the future, thus conserving bandage material.

The officers and noncommissioned officers of the permanent cadre stay at the first aid, evacuation, collection and clearing stations throughout the week, spending the time instructing the medical soldiers and demonstrating technic in the periods when "casualties" are not available for treatment. The trainees change jobs regularly so as to become proficient in every function. Almost unbelievable was the medical efficiency of these men who less than two months ago were occupied as salesmen, clerks, filling station operators and in a host of other employments from which they came to the Army.

These are great schools for the medical department of the Army. Students who fail go back to the ranks; teachers who cannot teach find other duties. With the accumulation of knowledge comes recognition and initiation of leadership; acceptance of responsibility; pride in the job. Camp Barkeley makes fighting medical men; soldiers trained in the tradition of medical science. They fight wounds and injuries; disease and death. It is a permanent asset for the nation derived from war.

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When the Child Begins to Speak

By HELEN MARTIN BROWN

Harold M. Lambert

Baby's first, inarticulate sounds have many of the elements of speech. They are his expression of feelings

THREE YEAR OLD Barbara was at the dinner table. The adults were carrying on an interesting conversation of considerable length. Finally Barbara reached over and touched her mother's arm. "I'm here, too," she said in a meek little voice.

A high school chemistry teacher gave his students one precept which is as fundamental for speech as it was for chemistry: "You learn to do by doing." No one can deny that one does learn to speak by speaking. The infant practices many hours. Crying and cooing, he makes an almost innumerable variety of sounds, many of which will not be needed nor used in the language he will learn from his family and acquaintances. This fact does not alter the amount of practice on the part of the infant. Of course he is not conscious that he is "practicing." There is satisfaction in making noises for their own sake, and there seems to be additional satisfaction in getting a vocal response, if one may judge by the lilt and increased energy of response made by the infant to whom an adult "coos."

A 4 month old baby shared her room with her grandparents when they came to visit. She would wake early and lie and coo to herself. If her grandfather responded, her coos became more energetic and more varied in tone quality; the "conversation" would go on pleasantly for as long as the grandfather wished to continue it.

How is this related to speech? There are several answers to this question. First of all, speech is the means of communication with others. It may have pleasant or unpleasant associations, no matter what the content is. Secondly, it may be tied up with self evaluations: "I'm not an interesting speaker; nobody enjoys listening to me," or "I talk all right with one person, but I hate to get up in front of a crowd," or "Oh yes, I love to make speeches. It's so much fun to watch the people in the audience respond." In responding to the child, the grandfather was adding to the pleasant associations of speech as social communication, and he was providing a situation in which "feeling tones" of being socially adequate were not denied the infant. In the third place, the grandfather's response was stimu-

lation to the baby for additional use of her voice: to a greater range of tones, to differences in volume, and through these and the greater quantity of time spent in using her voice, to a greater variety of sounds as far as maturation would permit.

Our first conclusion, then, about ways in which we may help our children become conversationally adequate would be to encourage their use of speech, by making them feel they are interesting to listen to and by giving them experience in the pleasant aspects of conversation.

The mother of a 4 year old may say, "But Johnny talks all the time. He's never quiet, and I just don't have time to listen to him. Anyhow, half of what he says isn't important." It's agreed that 4 year olds do talk a lot. What they talk about is more important, and is one question which concerns us. The other question with which we are concerned is how they talk.

What does your child talk about? What does he have to talk about?

Is his social life bounded by play with the dog in his own backyard and occasional trips to the grocery with Mother, to listening to the conversation of the older children when they come from school, to listening to others read stories to him?

A 3½ year old came to nursery school one fall. His speech was so unintelligible that no one except his mother could understand him. In addition, he was shy and seldom tried to convey his ideas to any one. Every once in a while, particularly at the dinner table, he would launch into a sequence of sounds. As the teachers listened they realized that the range and type of vocalization sounded like conversation. They concluded that he was imitating the conversation heard at the dinner table at home, where his college sister, his high school brother and his parents were all so busy visiting that he needed to say, as Barbara did, "I'm here, too."

In his case, and in many others, there's this other question: What could he have talked about? What had he been doing, what had he seen, how much had he understood of what had been going on around him all morning? How aware was he of all the interesting things around him? Did he know that the robins had built a nest in the crotch

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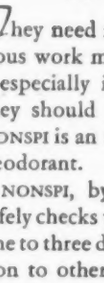

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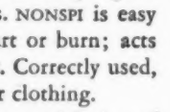

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of the neighbor's tree? Had he watched them collecting dried grass and mud for it? If it was easy to reach, had some one held him up to see what it was like, or to see the eggs? Was there interest in the hatching of the baby birds and in the process of feeding them? Were other birds nesting in the vicinity so that comparisons of nests and birds and their habits might be made?

Or how about the house that's been built around the corner? Has the child watched it in all its processes? Has he had materials (scraps of wood or blocks) with which he could experiment in making buildings of his own? Have processes in which he was interested been explained to him? Has he experimented with them, perhaps, and had an opportunity to explain them to others?

Has he been encouraged to smell and hear and see, to use all his senses, and then share these experiences? This comes through indirect learning, through imitation of the interests of others in the environment. All interests start this way, for one can't be interested in a thing of which one has never heard. A young artist, now famous, started her career at the age of 3 when she played around her parents' studio and was given art materials with which to amuse herself as they worked on their paintings and designs.

Our second conclusion, then, for helping children to become conversationally adequate is to promote their awareness of everything which is going on around them in which they might be interested and to help them understand these things.

We still have Johnny's mother's contention that she doesn't have time to listen to him, although the suggestions given may have helped the content of Johnny's conversation.

Does anybody remember Johnny and realize that since learning comes by doing, he needs to have opportunities to speak? He needs opportunities to talk with children, young people, parents and old people, to individuals and groups, to have pleasant associations and to feel that his contribution is worth while.

The mother of six children said that she tried to find time at least once a week for conversation with each child. In another household, the mother realized that her contacts with her children were mostly of the "do this, don't do that" type. She began to make a point of conversing with each child once a day. She planned her work so that she and a child might be near one another in order to visit. There were several results, but one was that the children seemed to be able to continue a conversation for longer and longer periods of time.

Another mother had become much distracted by the amount of time her 4 year old followed her about the house trying to talk to her. One day, instead of putting him off or going on about her work, she sat down, took her mending and proceeded to visit with him. When the conversation was finished, both went on about their other affairs. As time went on she discovered that a few minutes of personal, courteous attention had many advantages in time and interest for both.

So long as there is opportunity to speak, the quantity of the speech is not as important as the quality.

Concern about how the child speaks does not refer to his use of speech sounds. Rather, it lies in the clearness with which he expresses his ideas. This assumes that he has ideas to express and opportunities and encouragement for expressing them. The degree of clearness with which he speaks is apt to be in direct relation to the degree of specificity in the speech of his family and acquaintances. If Mother says, "Oh, I had the most divine time at the movie," and Father says, "Those women never have anything worth saying," Johnny is given only vague and categorized examples of speech and will have little reason for learning to choose his words carefully and to check his statements. In other words, he will not get practice in letting others know as accurately as possible what is in his mind.

A 3 year old was describing a scooter to her mother. "It's one of those things with wheels that you put one foot on and push the sidewalk back with the other." Her description wasn't the type an adult would give, but it shows her awareness of two important characteristics concerning scooters and her ability to explain these.

The characteristic of speaking accurately may also be developed

through conversation. The story of Tommy and the hundred cats fighting in the back lot is classic:

"How many did you say there are, Tommy?"

"Oh, fifty, I guess. Lots, anyhow."

"That would be a lot of cats, wouldn't it? I wonder how many there really are?"

"Well, maybe there aren't fifty, maybe there's just ten."

"Ten cats could make plenty of noise fighting. Did you really see that many?"

"Well, I really saw just two fighting, but they made enough noise for a hundred."

The person who learns to speak accurately must have accurate information given to him. When Bill asks why a hippopotamus eats grass, the answer should be as accurate as possible and related to the child's experiences. One 4 year old had evidently had this type of information, for he told his nursery school teacher about the build of the hippo, what he ate and something about the shape of his teeth.

Conversational ability, the fundamental means each of us has for communicating and exchanging ideas, will depend on the extent to which (1) the child is encouraged in his use of speech by experiencing the pleasant aspects of conversation and by feeling that others are glad to listen to him; (2) the child is given not only an interesting variety of experiences, but is encouraged to pay attention, to be aware of his experiences; and (3) the child is given examples of accuracy of expression and opportunity to practice this through description and discussion.

BEACH GIRL

Somehow I can't believe that you are you,
Here in the closeness of this inland town.
Your body hungers for the waves' purlieu;
It is not right that any evening gown,
That any slipper, silver though it be,
Should hold you captive for a single day
From winds that would possess you—from the sea
That spreads its surf around you where you lay
Warm on the sands on golden afternoons,
Tired out with swimming. This is not the place
For hair that cries for sunlight; these poor tunes
Struck by a clumsy band can little grace
The rhythm of your blood that beats in keeping
With winds and sun-lit waves and white wings sweeping.

—*Anderson M. Scruggs.*

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THE TEACHER'S ROLE IN MENTAL HYGIENE

(*Continued from page 629*)

mother at home, is looked upon as all knowing, all understanding.

Time was, to be sure, when the sole purpose of the school was to drill the pupil in reading, writing and arithmetic by a process of rote and memory. Obedience to the drill master was exacted by exhortation, threat and punishment. This system of education coincided with the philosophy of the era when a child was "to be seen, not heard."

We have gone a long way since, and the principles of liberty, freedom and equality find no better expression anywhere than they do in our public schools. Ironically, it is this democratic spirit that creates many problems among our school population. Contrary to the belief of many Europeans, the American child has a respect for his teachers that borders on reverence. This obviously places a tremendous responsibility on the teacher. Her favorable response makes the youngster happy and acts as an incentive to achievement. A negative reaction on her part brings insecurity and causes the child to seek relief in misbehavior or retirement.

The vast majority of our school teachers are admirable women who possess a wholesome understanding of the child. Some have the enviable combination of tact, patience and pedagogic skill which they utilize daily to their own enjoyment as well as to the interest and pleasure of their pupils. There is a certain spontaneity that goes with the lesson. They seldom experience serious problems in discipline, although —or perhaps because—the children appear to enjoy full freedom in the class. One such teacher on detecting an inattentive youngster gazing out of the window announces good naturedly, "Jackie Hansen seems to have found something interesting. Let's all see what it is." The whole class goes to the window. After momentary inspection it is decided that there was nothing there. Every one laughs, including Jackie. The children sit down, and the offender admits that it is not fair to waste every one's time.

In another room a 6 year old child reluctantly hands in a drawing with a few distorted lines colored bright red. It is supposed to represent a tree. Her neighbor teases menacingly, "Who ever saw a red tree?" The little girl hangs her head in despair, but the teacher comes to the rescue. "How many of you children have not seen red leaves on a tree? Raise your hands." Not a hand goes up. "I am surprised indeed," the teacher admonishes, "that Helen is the only child in the class who has noticed the beautiful red sumac leaves right here in the school yard." The little girl is elated. On her return home she tells mother that she is the best "drawer" in the class. "The teacher said so herself." She is a child of average ability, and there is no reason to doubt that as she matures her discrimination in coloring will improve. Such examples of tact and finesse on the part of teachers in our public schools may be multiplied by the thousands.

CAREFUL, SON!

Now, mind the steps, my little one.
Be careful of the steps, my son.
You'll fall and hurt your pretty kneeses.
(Oh, dear, he does just as he pleases!)

Watch all the crossings, dear, for cars
And don't be gazing round at stars;
And do keep clean! (How will he fare
At school without his mother there?)

Be careful of that girl, dear, do!
I saw her making eyes at you.
Why, one could almost hear her purr.
(Oh, dear, he's going to marry her!)

—*Virginia Brasier.*

At the other extreme, there are too many persons in our educational systems who remain either indifferent to or totally oblivious of the part they play and the influence they exert on the life of the child. They judge a pupil by the completeness with which he fits into the curriculum and the degree to which he conforms to the social mold as measured by strict academic standards.

The school has taken on itself the function of training the young organism in the ethical relationships and serviceable achievement which are prerequisites to happiness and useful living. This program is possible only on recognition that the daily lesson is of no greater importance than are the attitudes and reactions of teachers, fellow pupils and all the other human beings in the child's environment. In the classroom, at home, in church and on the playground he is always learning. His conscious and unconscious attempts to emulate and imitate are an integral part of his education. Knowledge, provided he has the capacity to acquire it, is a cumulative process. It cannot be measured accurately from day to day and often not even from year to year.

The good teacher is justly interested in the child primarily and in the basic subjects only so far as they help the pupil indirectly through profitable investment of his time and his energy. She acts as advisor of activity, and the child's talents for learning are directed into the various curricular channels. The efficient teacher understands that while the youngster may not be overly concerned with what others think of him, he is nevertheless a human being and his ego craves approbation.

Few children fall behind in their school work because of choice or insufficient effort, and no child, regardless of external appearances, ever remains indifferent to failure. I do not mean to imply that all pupils as a rule are diligent little angels who look on mental exertions as a solemn personal duty toward school and home. On the contrary, I am fully aware that most of them will go to no end of trouble in search of a way out of a task devoid of immediate adventure and appeal.

Modern educators do not favor repetition of grades. Within reasonable limits, a child is allowed to progress with his class despite scholastic deficiencies. This system is as humane as it is practical. It elevates the youngster's self respect and at the same time affords him

opportunities to acquire extracurricular knowledge from contact with his own age group. As for the basic subjects, in due time he somehow "catches on." Though he seldom achieves excellence, his academic career is not essentially hopeless.

Many such youngsters acquire an unusual degree of determination and perseverance in an attempt to overcome the handicap. A boy who had practically no conception of numbers until he reached the sixth grade is now at the top of his senior class in civil engineering. Another youngster whose handwriting was unacceptable to an uncompromising teacher in the earlier grades is at this writing a junior in medical college. In an effort to relieve the child of a feeling of incompetence, his physician had told him that good doctors are poor writers. I once had a professor in English literature whose rendition of Hamlet would be the envy of any Shakespearean actor. The students would congratulate him on his skill at the end of each reading. His eyes would sparkle with delight and with full theatrical zeal he would ask, "Did I ever tell you that they threw me out of grammar school because I could not learn to read? Yes, sir, they said that I was not meant for school!" These remarks were a tradition in college, heard by each student once a week for seventeen weeks.

This should not be interpreted as generally characterizing the ultimate pattern of the child who in early years experiences scholastic difficulties. Indeed, it is the exceptional youngster who through grit and tenacity rises above his environment. The average unadjusted pupil, unless he is fortunate enough to come under the influence of a sympathetic teacher, succumbs emotionally to the opposing forces. He either hides in a world of unreality and daydreams his way through school or he rebels against nagging, scolding and ridicule by adopting an asocial form of conduct. Neither of these escapes is a credit to society. As for the school, admittedly or otherwise, it constitutes a distinct failure.

Again I must pay tribute to the thousands of teachers who daily exercise an appreciation and understanding of juvenile sensibilities. They are aware of their personal and professional influence on the growing children entrusted to their care. They are true mental hygienists. They enhance the competence of the gifted children and promote self confidence among those vaguely designated as average. The youngster who lags behind is urged to maximum effort, and the sting of failure is dulled by attention to whatever little achievement may lie in the history of the unhappy child.

While teachers of high caliber predominate in our public schools, it is most unfortunate that there are yet too many men and women in our educational institutions whose personal and pedagogic philosophy seems to be that of keeping children on the defensive. The unadjusted teacher constitutes a serious challenge to our public schools. School administrators are fully aware of this evil, but they cannot do much to relieve it. It is a most curious anomaly. The merit system is used in the selection of teachers. Once the appointment becomes permanent, the merit system for the individual teacher ceases to operate. The result is that not a few suffer professional and intellectual deterioration in their uncontested security of tenure.

Educators have modified the syllabus and modes of instruction to coincide with latest knowledge in education and child psychology. They must now turn their attention to administrative reforms. Regardless of personal prejudice against modern instructional procedure, the individual teacher should be required, with allowance for necessary variations, to follow a uniform pedagogic design. It is not unusual, though terribly confusing, for a child in one school to be subjected to extreme variation in personnel ranging from the ultramodern teacher with little heed for the schedule to the reactionary type for whom nothing exists but the stereotyped routine of a previous generation. Intelligent parents would not think of employing a physician who refuses to recognize progress in diagnosis and prevention of disease. Since there is no individual choice in the public schools, administrators must assume the responsibility for the competence of the teachers, their ability and willingness to steer the youngster along life's tortuous but useful highways and crossroads.

INTER-AMERICAN HEALTH PROGRAM

(*Continued from page 641*)

The program finds its largest scope in the 2,000,000 square miles of the Amazon basin. Here is the largest potential source of rubber and other tropical products available to the United Nations. Into this area has begun a large migration of workers.

But there are enemies waiting for these workers in the jungle. The dangerous adversaries are malaria, typhoid, dysentery, smallpox. And so, with this army of rubber tappers goes a convoy of doctors, nurses and sanitary engineers.

With the assistance of the Health and Sanitation Division, Brazil has set up in the Amazon one of the greatest programs of preventive medicine in history. Twenty-two hundred miles across the valley, like trading posts in a far-flung jungle, a chain of health stations is being forged.

Gateway to this rubber empire is Belem, which lies 90 miles from the open Atlantic near the junction of the Para River and the mouth of the Amazon. Belem is the assembly point and jumping-off place for the trek of Brazilian workers westward.

From the moment the rubber tapper begins the march to the rubber forests, his life and well-being are carefully guarded. Along the trails to Belem a dozen rest stations are being built to receive rubber workers moving overland. The camps contain bathing and laundry facilities, dispensaries and isolation wards. Here the worker receives shelter, food, water, clothing. He receives a medical examination, inoculations against yellow fever and smallpox, and antimalaria drugs, free of charge.

In Belem itself, more than 700 men have been at work building dikes and tide gates, cleaning and straightening channels and small streams, draining low areas to eliminate breeding places for mosquitoes and prevent malaria.

Belem also is the site of a laboratory for studying mosquito specimens in the war on malaria. Hundreds of mosquito fighters in the Amazon basin send specimens to Belem in the search for malaria carriers.

From Belem island, for 2,200 miles, Brazil is engaged in the construction of five major hospitals and at least fifty dispensary infirmaries to cover towns of a thousand population or more. Of the dispensaries, thirty-five are to be on launches floating on a circuit along the Amazon and its tributaries. Some of these health stations are already in operation. They will extend eventually all the way to Guayaramerim, where the Mamere River forms a boundary between Brazil and Bolivia, and to Iquitos and Tingo Maria, in the Amazon headwaters of Peru, on the eastern slopes of the Andes.

Secondary headquarters of the program have been established nearly 1,000 miles up the Amazon from Belem at Manaos, capital of Brazil's first rubber boom, where an opera house remains as a memento. Also included are projects for drainage, sewage, water supply, personnel training and the distribution of a million tablets monthly of atabrine, free of charge.

The pictures on page 640 show (top): Families of rubber workers at camp near Belem; (right): Mosquito-breeding room of public health laboratory, Belem; (upper left): Sanitary clinic waiting room, Santa Tecla, El Salvador; (lower left): Patients waiting for examination or treatment at a public health clinic in Nicaragua.

Atabrine distribution, stepped up by newspaper and radio campaigns, is producing results. In one area 15 per cent of the population were afflicted by malaria formerly; now the incidence is down to only 2 or 3 per cent.

Employed on the program are 1,500 Brazilians, of whom 40 are doctors and seven are engineers. They are being assisted by a field party of United States technicians headed by Dr. Kenneth C. Waddell, noted for his pioneering health work with the Ford rubber plantations in the Amazon Valley.

Similar health programs have been launched by other nations with territories in the Amazon Valley, including Colombia, Peru and Bolivia. The health work is far advanced in Ecuador, where thirty-four separate projects are in progress. In Quito, the capital, the first nursing school completed under the hemisphere health program is in operation, a tribute to cooperation among almost a dozen Ecuadoran and United States agencies. In a modernized building on the grounds of the Eugenio Espejo Hospital, thirty girls in the powder blue uniform of the probationer have begun a three year course that will meet the rigid standards of the International Council of Nurses. The students receive free tuition, uniforms, textbooks, materials, meals and living quarters.

In Quito and Guayaquil, Ecuador's principal port, hospitals and laboratories are taking shape, modern sewers are being installed and drainage programs undertaken. In addition to the nursing school, the program in Quito calls for a 100 bed hospital for infectious diseases, a 200 bed maternity hospital, a complete health center to house the country's National Health Service and its many clinics, laboratories for the municipal health department and a new market place.

In Guayaquil the program calls for a tuberculosis hospital, one for infectious diseases and a large maternity hospital, the addition of men's and children's pavilions at other institutions, a new building for the medical school, and the addition of an auditorium and six laboratories to the institute de Higiene.

In Chimborazo Province, a war of extermination is being waged against rats and guinea pigs, carriers of bubonic plague. At Salinas, site of a United States military and naval base, another sanitary campaign is under way.

In Bolivia, a central office and supply post has been set up at Cochabama. In the Bolivian program, malaria control and pure water supplies are the most pressing problems.

Paraguay's health program has seen construction begun on a large health center at Asuncion, the capi-

tal, to house the National Ministry of Health. The center will include clinics for treatment of disease. Sites for other health centers in Paraguay have been selected. Projects include sewage and water supply facilities, hospitals, training of nurses and technicians and a tuberculosis sanatorium at Asuncion.

The first health and sanitation projects in Haiti have been completed. This work includes canals and drainage of marshlands for malaria control in the Carrefour Lighthouse area of Port-au-Prince, the Haitian capital; similar sanitation work at Bizoton, construction of water and sewage facilities at Fort Lamentin.

Nearly a score of projects have been started or planned for Port-au-Prince and other Haitian communities. These involve malaria work, construction of market places, improvement of water supply and other sanitation facilities. The market places serve as centers for dissemination of health information. At Cap-Haitian a malaria control project is under way to protect workers on a 5,000 acre project for growing sisal, a strategic material.

In Peru, a program has been launched to bring hospitals to its citizens, wherever they are. For example, San Martin, capital of a province, is almost unreachable except by plane. It needs a hospital. So materials were flown in by plane to build the hospital.

Tingo Maria, 520 miles from Lima in the Andes, is the center of a new agricultural colony, where crops thrive and disease organisms are widespread. So in Tingo Maria has risen a new hospital, with water and sewage systems.

Chimbote, north of Lima, is a seaport and center of a coal and iron area. Through it comes the Pan-American highway. Plans for Chimbote include a hospital and health center, malaria control and sewage disposal. The Peruvian program includes dispensary launches for Peru's Amazon area and a health center in Lima, the capital.

In Central America, from Guatemala to Costa Rica, the Institute of Inter-American Affairs is cooperating in more than seventy-five health and sanitation projects. They include malaria control, health centers, sewage and water facilities. They also include an abbatoir in San Jose, Costa Rica; a 300 bed hos-

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pital in Guatemala City; a tuberculosis dispensary in Tegucigalpa, the capital of Honduras, a program of tuberculosis control in Nicaragua and a nurses' training school at Managua, the Nicaraguan capital.

Running through the fabric of this over-all health program are a number of subsidiary campaigns against tuberculosis, leprosy, yaws, typhus. Seven countries have launched projects to lift their nursing professions to the highest modern standards. The projects call for reorganization of existing nurses' schools, establishment of new ones for advanced and review courses for nurses.

Assisting in the work are the United States Public Health Service and the hemisphere-wide Pan-American Sanitary Bureau. They supply teacher nurses, buildings, funds and texts, and they plan courses of instruction.

So goes forward the most imposing inter-American health program yet undertaken. A public health crusader in the tradition of Walter Reed, Carlos Finlay and William Gorgas, Dr. Dunham has been working in the field of tropical medicine for almost three decades. He is a graduate of the University of Oregon Medical School, received an M.A. degree from George Washington University and doctorate of public health from Johns Hopkins. He also studied in the London School of Tropical Medicine. An army doctor more than half his life, he has taught in the Army Medical College and served as public health adviser to the Governor General of the Philippine Islands. Speaking of the inter-American battle for health, Dr. Dunham says:

"These projects, in keeping with the Rio development program, have been planned for immediate wartime needs in connection with hemisphere defense and development of rubber, fibers and other tropical industries. But, when the war is over, the hospitals, nursing schools, sewage, water and other sanitation facilities will remain to become enduring contributions to the health of our neighboring republics. The health and sanitation program should represent, in postwar retrospect, one of the notable achievements of friendship and unity of action among the Americas in these crucial years."

Winged Death

(*Continued from page 637*)

their lives, choice of breeding places and habits to cope with new environments.

Nevertheless, medical and public health workers have been victorious against the winged death whenever enough skill and enough labor have been supplied to their fighting line and kept there. In the early Panama Canal Zone days, of every thousand employees admitted to hospitals, 821 had malaria; a few years later, the number was 76. Gorgas' malaria control staff was stricken by the tiny foe almost to a man. Soldiers never fought more expendably at any time, any place. The Zone is habitable for our armed forces today because the mosquito war there still marches on. A business man from the States traveled to Panama at the time Gorgas was accomplishing what most people believed was impossible and found in chagrin that laborers there succumbed less often to the "chills and fever disease," and lost fewer working days therefrom, than did his company's men back in Alabama and Pennsylvania. He came home with a big idea and put it to work by employing an expert malaria doctor, one of Gorgas' own, who soon reduced the company's cases from 2,000 to 150!

No similar spectacular results can be recorded on a country-wide scale, for our national anopheles war is a stalemate. United States malaria death rates for the fourth decade of this century averaged about the same as they did in the first.

The engineer is at once the bane and one of the highest hopes of malaria control. He drains swamps and stagnant waters, reducing the disease in one area, and in another he builds dams and lakes, providing perfect aid and comfort for the enemy! Five states recently had their malaria problem alarmingly increased as the result of the building of a chain of dams in the upper Mississippi to make a navigable channel north of St. Louis. Some areas of the Mississippi valley which were drained many years ago are now densely malarious again because the drainage systems were not maintained. Drainage rates high among methods of malaria control, but when it peters out for lack of upkeep it's worse than none at all. Sanitary engineers "stood rather impotently by," relates one of them, and watched the New Deal spend $10,000,000 on what laymen and some public health people who didn't know the whole story believed to be malaria control of tremendous proportions and permanent value. The immediate object was putting men to work, and there wasn't time for preliminary surveys by qualified professionals. Consequently, the labor crews dug many mere ditches which could have been really effective malaria drainage systems.

The man who carries the medicine bag is of course the most indispensable person in the malaria-fighting outfit. He can save many patients from the winged death if he's given a chance in the beginning of the siege, by doses of the right drug at precisely the right time according to which of the several types of malaria is staging the battle. (Sometimes several types occur at once in the same patient.) The same drug is not equally effective in all types nor even in different stages of the same type. With prompt and thorough and extremely specific medical treatment, few patients have to die in the initial attack or live to shiver and shake and burn in recurrent ones or become helpless catch-alls for other ills.

But medical science has no vaccine to protect man from this mosquito-borne disease as it has for another currently important one, yellow fever. Neither has it a drug which is truly preventive, according to the consensus of well informed medical opinion. Our need for quinine, the largest and best supply of which fell into Jap hands, and for atabrine, the synthetic substitute, is so acute that the lack or inadequate stock of these drugs could lose the war for us.

The medical and sanitation departments of the Army and Navy

and many governmental, philanthropic and commercial agencies have mobilized their defenses. Chemists are squeezing every last bit of quinine from available Cinchona bark, using leftovers never before considered worth saving, and they are striving to produce better synthetics as well as enough of the older ones. Our hats are off to the chemists who perfected an American atabrine to replace the German atabrine—whose complete formula was withheld from us—and are manufacturing it in prodigious quantities.

In and about many military camps and war industrial districts here the anopheles fight requires an army within an army. (When a medical director of the U. S. Public Health Service described "The Malaria Burden" to the American College of Surgeons on March 12, 1943, the Service had recognized 150 military and war industry areas as critically exposed to malaria.) Drainage, larvicide spraying and screening are being done at an unheard-of rate. Medical men are receiving intensive training in the prevention, diagnosis and treatment of malaria, and those in the service instruct officers and men in control methods. Never before have so many physicians, engineers, entomologists and laboratory and field technicians united to protect one nation's armed forces and civilian war workers against a single disease.

Notwithstanding this, thousands of our soldiers will return home malaria carriers. The disease will also have spread on the home front, because, malariologists say, extensive population shifts like those now going on always distribute carriers into new areas, setting up new foci of infection. New York City's Health Commissioner has already reported a rise in its malaria rate.

Yet, even if military peace does leave us with a bigger mosquito war on our hands than ever before, one improved weapon to fight it will be ours. This could be the most effective weapon of all, too—a mightily increased knowledge of the disease among the laity as well as among the medical and allied professions. Most of us Americans are going to learn things about the winged death within the next few years.

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ANNE: "*Well, I hope it'll make her less self-conscious on such days. She always wore such a tell-tale expression.*"

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Breast Feeding

By FRED L. ADAIR

THE NURSING of infants by their mothers, especially in the earlier months, is always important. It is particularly important now that difficulties surrounding artificial feeding are increasing and the supply of critical ingredients and materials is inadequate to meet all essential demands.

Human milk becomes an important asset not only to the individual mother and child but as a commodity, because its increased production and use will conserve other milk and make it available in larger quantities for older children and others whose needs must also be met.

The new mother can in most instances furnish all or nearly all the milk her baby needs. It requires a little time and patience to teach the baby to nurse properly, but the effort will be fully repaid. Nurses and doctors as well as hospital personnel should encourage breast feeding and not be too ready or eager to use substitute feeding and formulas.

It is also possible to utilize the milk of mothers whose babies do not require all the milk they produce. In hospitals where there are numbers of mothers this milk can be collected and used for other infants who need it.

In some institutions human milk can be preserved in the frozen state or it can be pasteurized and kept under refrigeration. It should be possible to have dried human milk, but until some simple process is devised for drying small quantities this plan would not be very practical or economical.

Letters from Readers

(Continued from page 622)

Soon, though, in my effort to get adjusted to being a doctor's wife, I began to read some of the articles and found them quite interesting. With every issue after that my interest in this magazine grew, and now I hardly miss a line of it. It has been a great help to me, as the articles are written very plainly and are easily understood. I am looking forward to all your coming issues. MRS. HENRY BACHMANN
Delaware, Ohio

Fit at 73

To the Editor:

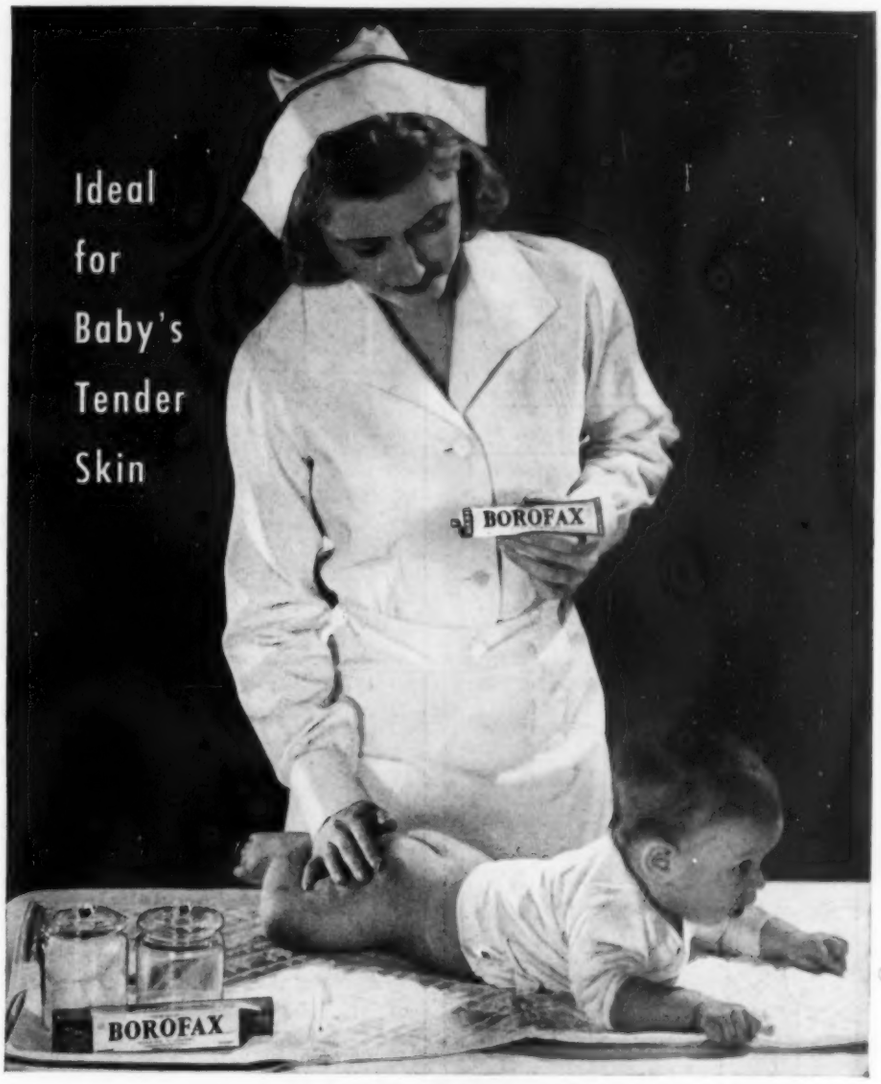
I am 73 and pass a perfect physical examination—due in considerable degree to my having read HYGEIA. C. M. WILLIAMS
Topeka, Kan.

TRANSCRIBED HEALTH BROADCASTS

The American Medical Association has recently announced the availability of electrically transcribed radio broadcasts on health subjects for loan to radio stations, health departments, voluntary health agencies, parent-teacher organizations or other community groups. The transcribed broadcasts will be loaned to such groups on approval of the local county or state medical society, the announcement said.

The Association's Bureau of Health Education, which prepared the transcriptions, also maintains an extensive library of radio scripts for use by medical societies and cooperating groups. More than eight hundred titles are comprised in the library; many of the scripts were contributed by state and county medical societies, health departments and voluntary agencies.

"The electrical transcriptions now made available are an effort to continue the service of the medical profession to the public in the field of health education," said a recent editorial in *The Journal* of the American Medical Association. "With depleted ranks of local medical societies, radio broadcasting becomes more difficult even as it grows in importance with wartime health problems facing the people."



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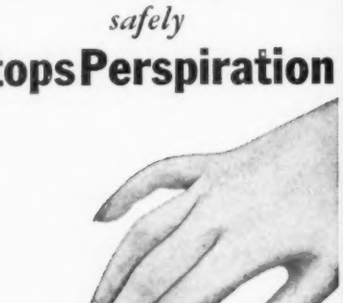

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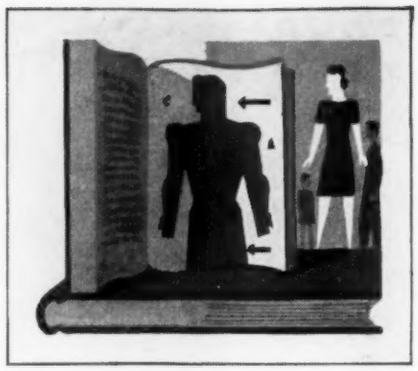

NEW BOOKS ON HEALTH

Childcraft

The Quarrie Corporation. Cloth. 14 volumes. Price, $47.00. Illustrated. Chicago, 1942.

"Childcraft" is a set of fourteen books for children under the age of 10 and their parents.

The first six volumes are collections of poems and stories for children. It is difficult to find a better first book for a child than these "Poems of Early Childhood." This volume contains three sections: "Nursery Rhymes," "The World About Us," and "The World of Fancy." So charming and varied are the selections that continuous rereading endears them to the child.

The other volumes for children are titled: "Narrative Poems and Creative Verse," "Experience Stories and Animal Friends," "Tales and Legends," "Our Own Country and Foreign Lands," and "Holidays and Famous People." They are good introductions to each subject and stimulate further exploration. It is surely an oversight that although "America" by Samuel Francis Smith is printed in Volume I, the "Star Spangled Banner" is not to be found in the entire series.

The second six volumes deal with child guidance. These include: "The Growing Child," "Guidance and Development," "Ways to Learning," "Nature Excursions," "Play Activities," and the "Parent Guide-Index." The articles are written by such well known authorities as Sidone and Benjamin Gruenberg, Marjorie Hardy, Florence I. Goodenough, Louise Zabriskie and Hughes Mearns. They cover every imaginable phase of a child's life from birth to about 10 years. One may read how to feed, dress and discipline the child; what to play indoors and out; the care of all kinds of pets; what research reveals about the effects of movies and radio on the child; when and how children learn the "three R's." The advice given is all sound and is broad in application. Methods are described in detail. All articles illustrate their points with numerous examples and instructions. One may be stimulated to read other sources, but the information given here is sufficient for the average parent. Each article is accompanied by an excellent bibliography.

The last two volumes are on "Art and Music" and "Natural Science and Industry." They are especially well illustrated, well selected and simply written. A new addition is the article on "Making Musical Instruments" by Nina Jordan and David Dushkin. The instruments can all be made at home with little trouble; they are fine education and amusement for any child. In this set of books parents have a ready child guidance reference and children have a constant source of education and entertainment.

BARBARA FISHBEIN FRIEDELL.

Team Sports for Women

By Margaret H. Meyer, M.S., and Marguerite M. Schwarz, M.S. Cloth. Illustrated. Price, $3.50. Pp. 385. Philadelphia: W. B. Saunders Company, 1942.

The preface to this book states that it was written to fill the need for a comprehensive treatment of team sports for women from the standpoint of the learning and teaching of these sports. The introduction sets forth the arguments in favor of team sports in high schools and colleges from a social, physical and economic standpoint.

The following chapters include thorough discussions of the various women's team sports: basketball, hockey, soccer, softball, speedball and volley ball. These are in outline form, which makes for easy understanding and reference. For example, the chapter on hockey is divided into four sections: (1) introduction, covering the history of the game, equipment and its care,

the officials, etc., (2) individual skills and tactics, (3) team tactics and formation plays, (4) position play. The latter sections discuss every stroke and play known in the game and include valuable coaching suggestions and a wealth of diagrammatic illustration. Each of the sports is covered in a like detailed manner.

Especially helpful to teachers are the many suggestions for drill in the skills involved in these sports, which are effective and interesting both to the beginner and to the already skilled player. The first two chapters are devoted entirely to teaching and coaching, the first describing the presentation of elementary technics and the second the fundamental skills of body control and footwork. The drills explained here are a necessary preliminary to all the sports discussed later. The book is equipped with an excellent bibliography and a complete index, which should make quick reference easy.

VIRGINIA H. HOUCK.

Your Arthritis

By Alfred E. Phelps, M.D. Cloth. Price, $2.00. Pp. 192. New York: William Morrow & Co., 1943.

Books have been written for the patient who has tuberculosis, diabetes or heart disease, and now this small book is similarly designed for the patient who has arthritis. It properly points out that a large proportion of patients with arthritis get well. It also brings out the important fact that the longer the disease has persisted the longer as a rule is its cure. The book also emphasizes the fact that no one form of treatment has proved successful in all cases. Some easily understood illustrations of the anatomy of joints and discussions of what happens to them when they are affected with arthritis are included. The cause of pain and disability is described.

The word "arthritis" has a terrifying effect on some people, and this book will be useful in overcoming that irrational fear. It is true, as Dr. Phelps brings out, that the patient himself or herself can do much to overcome the worst effects of this disease. The mental attitude of patients, as every experienced physician knows, is especially important in this disease not only because of the degree of cooperation with prescribed medical measures but also because the mental outlook appears to have a direct effect on the joints themselves—

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at least in that form of arthritis which is called "rheumatoid" or "atrophic."

In a disease like arthritis, the cause of which is unknown and for which there is no specific treatment as yet, there is ample reason to have some differences of opinion among specialists; indeed it would be unfortunate for ultimate progress if this were not so. This book on the whole has presented generally acceptable information and has avoided most of the pitfalls of controversy. Most patients with arthritis will surely profit from reading it.

E. P. JORDAN, M.D.

A Surgeon's Fight to Rebuild Men

By Fred H. Albee, M.D. Cloth. Pp. 349. Price, $3.50. New York: E. P. Dutton & Co., Inc., 1943.

This is the story of the life of Dr. Fred H. Albee, famous bone surgeon of New York, whose name is attached to an operation immobilizing portions of the spine for tuberculous and other spine diseases, and to many of the instruments used in bone surgery. It is not among the best of the medical autobiographies, mainly because it is not as well written. It gives the impression of being hastily assembled from notes, many of which seem to have found their way into the manuscript insufficiently edited. The title is unfortunate. Nobody is opposed to rebuilding men. Dr. Albee suffered no major opposition to his work; his contributions were promptly accepted and widely acclaimed, and he was given liberal credit for them when he was still comparatively young; one wonders why the book should be called the story of a "fight." True, there was the usual amount of human inertia against which the doctor had to struggle, as do all doctors and indeed all leaders of men. According to his own admission, Dr. Albee was crowned with honors at home and abroad.

W. W. BAUER, M.D.

NOTICE

Books reviewed in this section should be ordered from booksellers or direct from the publishers. They may not be secured through HYGEIA or the American Medical Association, unless published by this organization. The following list contains the complete addresses where the publishers mentioned in these reviews may be reached:

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Wm. Morrow and Co., Inc., 386 Fourth Avenue, New York, N. Y.

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We'll do it partly because of the look that would come over the faces of our fighting men if we should fail. We'll do it partly because the cheapest, easiest way out of this whole rotten business is for everybody to chip in all he can and help end it quick. We'll do it partly because there's no finer, *safer* investment in the world today than a U. S. War Bond.

But mostly, we'll do it because America is right smack in the middle of the biggest, deadliest, dirtiest war in history.

And we're Americans.

Back the attack with War Bonds

This space contributed to the Third War Loan Campaign by

HYGEIA, THE HEALTH MAGAZINE

750,000 UNWANTED MEN

(*Continued from page 652*)

Does the Army want such men? It points out that they are unable to reason, calculate, plan, construct, or even compare weights. Their suggestibility makes them fine targets for any fool ideas that come along, including those put out by enemy propagandists. Among some other points listed against them are lack of personal cleanliness and muscular awkwardness. And Dr. Rapaport estimates that 20 out of every 1,000 men examined are mental deficients.

Not all illiterates are necessarily mentally deficient, although draft board examiners at one station in Chicago were amazed at the number of men from the slums who could neither read nor write. The man who can't perform these functions, however, is looked on with suspicion until he gives a good reason why he never learned these first adjuncts of civilized living.

When the psychiatrist talks about psychopathic personalities he is referring to a sort of wastebasket grouping of mental disorders. There is nothing wrong with the ability of such men to think and reason, but they refuse to accept the normal standards of society—and the regulations and discipline of the Army if they get into uniform. This group includes many habitual criminals and the inadequate personalities who get jobs in good times but talk back to the boss and do slovenly work, until, when bad times come, they wind up on relief. Here too are the nomads or wanderers, swindlers, kleptomaniacs, petty crooks and other offenders against the mores of society. And the pathologic liars, who lie even when telling the truth would do them more personal good.

Almost all of us know at least one person whom we would classify as a psychoneurotic. These people follow normal paths, on the whole, but show some deviations which, while they unfit the psychoneurotics for Army duty, don't interfere too seriously with their pursuit of civilian occupations. Often, in fact, men rejected as psychoneurotics hold at least reasonably good jobs in civilian life. Their rejection bothers the draft boards no end.

There are three major groups of psychoneurotics: those who are put out of action by hysterias, the hypochondriacs and those suffering compulsions and obsessions. In practically all cases, the psychoneurotic is aware that he is a bit off the normal, but he is helpless to do much of anything about it.

Although we are inclined to believe that only women are affected by hysteria, it is a fairly common affliction among men. The hysteriacs may suffer anything from a major hysterical attack, similar to the temper tantrums of childhood, to paralysis, loss of voice, loss of hearing or sight, loss of memory and similar functional disorders resulting from mental strain. An hysteriac marching down the road and hearing a motor backfire in an area where he has reason to fear shellfire may suddenly acquire a paralyzed leg as a purely involuntary escape from danger. Incidentally, hysterical paralysis is said to be rare in the Navy—a paralyzed leg would be no help to a man as an escape mechanism when the man's ship may sink under him. Hysterical amnesia, or loss of memory, may cause an hysteriac on an important mission to lose all track of who he is and what he is doing. Such a loss would be exceptionally bad in the case of a man sent back from the front to obtain reinforcements if he became so frightened that he forgot the purpose of his trip.

The hypochondriac gained his chief fame during the last war through the mental disorder known as "soldier's heart." Thousands of men were invalided home as sufferers from heart trouble when they were actually suffering from mind trouble.

The hypochondriac has most of his attention focused on his body, usually centering in the region of the heart. He is the man who is always falling out of march because his heart is pounding or he has a pain in his chest or some similar indication, to him, that he is overworking his body. It is a condition that is chronic with him and one that makes him very tired and irritable. One thing he does like about the Army is the morning sick call—he will be right up in the front of the line there much of the time. He is apt to become irritated at the doctor, however, when assured there is nothing organically wrong with him. Once let a doctor agree with such a man that there is something organically wrong, and the best specialist in the world will have a fine time trying to convince him that he really is all right.

The term psychasthenia includes those who have compulsions, obsessions, great anxieties over trivialities, phobias about food, dirt and germs, and similar evidences of disorganized thinking. Much of the time they know they are being ridiculous but can't do anything about it. They may be terribly afraid of the impression they have made on others, may become completely disorganized in their thinking under the slightest stress, or just become upset because they can't remember whether they locked the front door before getting into bed. Some of them have fixed and inflexible routines for eating, sleeping, dressing and other acts—routines that won't fit the Army and will disorganize them completely if interrupted.

The reasons the Army doesn't want chronic alcoholics, drug ad-

NEUROSES IN THE MERCHANT MARINE

Seamen of our Merchant Marine are subject to the same war neuroses as are others of our fighting men, Sydney Margolin, Lawrence S. Kubie, Mark Kanzer and Leo Stone, New York, report in *War Medicine*. From their study of the acute emotional disturbances in 40 such seamen who had been on torpedoed ships and who are continuing at sea, the four physicians offer suggestions for improving the care and lot of such men.

"The traumatic war neurosis [a minor mental disorder resulting from war injuries] is not confined to members of the armed forces," the four physicians explain. "Sailors of the Merchant Marine are also subjected to torpedoes, bombs, mines,

dicts and sexual perverts are reasonably obvious, at least for the last two. Army life won't cure a chronic alcoholic any more than it will a drug addict. He may stay sober while he is kept away from alcohol, but the Army is not a detention home capable of seeing that such men never get near a bottle. Even after an alcoholic is sobered up he may, for several weeks or even months, suffer from alcoholic hallucinosis, during which he may grab a gun and shoot a comrade because he believes the soldier has been persecuting him.

The psychotic (suffering from psychosis) person knows that he is right and the world is wrong, in contrast to the psychoneurotic, who realizes that his mental quirks set him apart from the main stream of normal conduct. While the psychoneurotic trys to correct himself, the psychotic seeks to correct the world.

Of the three major groups of psychotics, the paranoiacs, according to Dr. Francis J. Gerty of the world renowed Illinois Institute of Neuropsychiatry, are of relatively the least concern to examiners of young candidates for the Army. The paranoiacs, the Army manual says, "cling to fantastic beliefs in their overwhelming importance, and often feel that people are persecuting them or otherwise interfering with their career or well-being. Some of them believe that they are in communion with supernatural beings. Others believe that they are the victims of plots, secret organizations, spy rings, or religious or fraternal groups."

The manic depressives, a second group of psychotics, are those persons who drift far out of the normal into the valleys of despair and up to the peaks of elation. On the upswing they feel a great need for activity, a need that may become so great that it completely disorganizes their sleeping and eating. A soldier, acting under the compulsion of this need to be out among people and doing things, would, for example, steal an officer's insignia and go to town for a whirl. On the downswing, these people begin to feel that they are no good to any one. Carried far enough, this depression leads to suicide and even to taking comrades into death with them because the world is such a horrible place.

The schizophrenic group, or those suffering from dementia praecox, is the chief group the induction station psychiatrists must watch for, according to Dr. Gerty. The symptoms of these men begin to show up about the time of adolescence. They are seclusive; they want to be alone—something they can't do in the Army. They are indecisive in their thinking and indifferent to what goes on around them. They are especially vulnerable, among all the mentally ill, to a complete breakdown under the rigors and regimentation of Army life. The breakdown may take the form of highly impulsive action, or of a frozen stupor.

But where are the "shell shock" cases in all this? The answer is that they are everywhere and nowhere. The man with a predisposition to one of the mental illnesses may hold up under the strain of Army life until he actually gets into combat. There the psychologic stresses and strains suddenly become intolerable for him. He may become paralyzed, lose his memory, be thrown into a catatonic stupor or give another of the manifestations of a mental illness which suddenly has become acute.

The shock, in most of these cases, is psychologic rather than physical. There has been no actual injury to the brain or its covering. In some cases, true, the individual actually suffers an injury to his head, but these cases are in a minority among those commonly referred to as shell shock. The man who hears a shell explode when he is out of range of any possible physical damage from the shell can be just as thoroughly shell shocked as the man within the actual blast range. A potentially ill mind operating under the continued stress of Army life has been carried suddenly to the breaking point. So we take the easy path, which says nothing, and say the man has been shell shocked. What has actually happened is that the man has suddenly suffered one of the neuroses kown to the psychiatrists in their civilian practices.

Most of the leading psychiatric authorities agree that there is no such thing as a war neurosis—that no group of psychiatric symptoms are observed in wartime that aren't also seen in peacetime. War hastens the development of neuroses and makes them more acute in some individuals than they might be in peacetime, but war brings nothing new in the psychiatric line. This war may, however.

Actually, combat stresses aren't necessary to bring out the war effects of mental illness. Lack of privacy, loss of friends, separation from family, sexual deprivation, being taught to kill in violation of one of the major teachings of civilized upbringing—all are major factors in causing breakdowns of mentally ill men. These changes require mental as well as physical readjustments, and the mind with a weakness breaks as it tries to twist into a drastically new course.

The stresses and strains increase, of course, as the soldier approaches the battle areas. But men in American camps and in such new American outposts as Iceland, men who have never been fired at, have broken in large numbers simply because they couldn't readjust their living and thinking to Army life.

Many physical disabilities may be cured, or even get well themselves, when a man is undergoing military training, but military service has just the opposite effect on most mental illnesses. The Army and Navy have spent years trying to convince judges in the criminal courts that the services are not reform schools for those of criminal mentalities, and now they face something of the same problem in

---

machine gun and shell fire, severe body wounds and prolonged exposure to hunger, thirst, cold and exhaustion. They, too, escape only to be haunted by the memory of those who were mutilated, burned and drowned. They also know the rage and terror of battle. . . ."

The study was made with the permission and cooperation of the National Maritime Union. The four investigators found that of the men examined, 25 per cent had severe persisting reactions, 50 per cent had mild to moderate persisting reactions and 25 per cent had no persisting reactions. Previous experience would lead to the presumptive conclusion that in the severe reactions, the longer the duration of the symptoms, the poorer would be the outlook for ultimate recovery.

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Dieting?

Watch Your Diet

by E. M. Geraghty. 8 pages. 10 cents.

The Truth About Acidosis

by James A. Tobey. 2 pages. 5 cents.

Pocket Calorie Index

compiled by Esther Bogan Tietz, M.D. 10 cents.

AMERICAN MEDICAL ASSOCIATION

535 North Dearborn Street, Chicago, Illinois

attempting to convince draft boards that the mentally sick man is going to get worse, instead of better, under the regimentation and strain of service life.

Given free choice and the chance and time to make their own adjustments, many of these men have made successful adjustments in civilian life. Thousands and thousands of them are in war industries, some of them making vital contributions to the war effort. It is obviously better for the nation, as well as the individual, to leave such men in their present occupations rather than to put them in the Army, where they are so apt to harm not only themselves but the war effort by becoming an unnecessary drag on the Army medical services.

The casual reader is apt to find many of these various symptoms of mental illness in his own personality or those of some of his friends or associates. Does this indicate that the reader or the subjects of his observation are mentally ill? The answer, of course, is no. We all, for example, have periods of elation and periods of depression, but the peaks don't force us to overexpressions of motor activity, nor do the valleys drag us down to suicidal tendencies. Similarly, we have all had fancied ills, but this doesn't make us hypochondriacs.

The psychiatrist at the induction station faces no easy task in weeding out the mentally ill, or the men with potential lack of mental stability and normalcy, from the thousands who pass through the stations each day. Only the grossest cases are caught in the draft board screening examinations now. The rest is up to the induction station psychiatrists, most of whom are too overworked to do anything approaching a thorough job of psychiatric examination.

The thoroughness of the examination varies from induction station to induction station, depending on the number of men to be examined by each psychiatrist. General Hershey expressed alarm when he found one place which he said was rejecting 40 per cent of its candidates because they were neuropsychiatric.

At the other extreme was the situation at Camp Blanding, Fla., where only 2 per cent of the first 17,000 men examined were rejected for neuropsychiatric reasons. There is no evidence to indicate any marked variance in the amount of mental illness in different states, or in different sections of the country. Capt. David J. Flicker of the Blanding medical staff, writing in *War Medicine,* published jointly by the American Medical Association and the National Research Council, said that the greater part of the 17,000 inductees who went through the camp induction station had never been seen by either of the two trained psychiatrists on the Blanding medical staff. At best, he said, an inductee was given an examination of from two to three minutes, with a recheck lasting not more than ten or fifteen minutes in doubtful cases. "I feel that not over 25 per cent of those selectees who will break down with psychiatric disorders are being apprehended," he said.

The induction station at Chicago, one of the largest in the nation, has been rejecting about 10 per cent of all men submitted for examination because they were psychiatrically unfit. Each psychiatrist sees about fifty selectees a day, allowing approximately ten minutes for each examination. If the original examiner finds evidences of mental disorder the patient is referred to two other psychiatrists, who also evaluate his symptoms.

The Chicago station is fairly close to the national rejection rate disclosed by *The Journal* of the American Medical Association, which said that 7.5 per cent of the men examined in the nation are being rejected for psychiatric reasons. This, it will be remembered, compares with a 2 per cent rejection rate in 1918. The higher rate does not mean, the *Journal* said, that more men are now mentally unfit for service. "Our scientific methods have improved sufficiently in the interval (since the last war) to enable more accurate detection of such cases," the publication explained.

The tasks of the induction station psychiatrists would be simplified if they could have before them accurate psychiatric and behavior histories on each selectee. National Selective Service headquarters has been working on this problem but hasn't achieved any nationwide success as yet in meeting it. Some state Selective Service systems, notably those in Connecticut, New York, Michigan, Arkansas, Kansas

and, to a minor extent, Illinois, have made progress toward sending such histories to induction stations with their selectees.

Evidence accumulated in Illinois, and more particularly in Chicago, indicates that psychiatrists in that area, at least, are not rejecting men who should be in the Army. Chicago selectees who were labeled psychiatrically unfit at the induction station there were re-examined by private psychiatrists who volunteered to aid Lieut. Col. E. Mann Hartlett, the state's Selective Service medical director. These psychiatrists, after more leisurely examinations than were possible in the induction station, agreed in almost 100 per cent of the cases that the Army examiners were right.

The errors of the induction station psychiatrists fall on the side of permitting men who are mentally unfit to get into the Army. *The Journal* of the American Medical Association joined other authorities when it said: "The indications are that 30 per cent of the casualties now arriving from the war zones are psychiatric in character or have some well defined psychiatric aspects. Nervous and mental discharges are major causes of medical discharge from the Army." And this despite the fact that nearly one third of the men rejected are sent away as mentally unfit.

As recently as March 1943, the War Department sent the Army medical examiners a warning which recalled General Pershing's 1918 cablegram from France. Too many mentally unfit men are getting into the Army and are becoming a problem overseas, the War Department warning said. The idea seems to be that, since we are limited in the quantity of men we can get abroad because of the lack of shipping, we should concentrate our efforts on quality.

Diabetic Gangrene

(Continued from page 647)

plaster which injures the skin. He must not cut corns or calluses. He must not wear tight garters or bandages. To this long list of "must nots" for the diabetic patient to prevent foot complications there should be added one "must": to remain in close touch with his doctor!

The modern doctor will give the patient specific directions for the preventive care of his feet. This care will be directed toward preventing injury, avoiding infection and maintaining and improving circulation.

Directions for the prevention of injury are usually a list of "don'ts" covering all the warnings which have been already mentioned. The directions for avoiding infections consist of a specific routine of foot hygiene: 1. The feet should be soaked for fifteen minutes in warm water with a plain white or lanolinated soap. While in the bath, the feet and toes should be exercised. 2. Then the feet should be dried thoroughly but gently, with special care between the toes. 3. All calluses, corns and cuticles should be rubbed gently but thoroughly with lanolin. 4. The excess of lanolin should be wiped off with a towel. 5. The entire foot is then gently rubbed with a small amount of alcohol. This routine will be repeated as often as the doctor deems it necessary. The results attained by this treatment are amazing.

Preventive directions for maintaining and improving the circulation will also include several "don'ts," such as wearing tight garters or bandages which impair circulation. For patients with impaired circulation, special exercises are advised. Lying flat in bed, the patient is instructed to elevate his feet and legs for two minutes. Then they should be hung over the side of the bed and exercised for another two minutes. Finally, the patient should lie flat on the bed and rest for two minutes. This sequence should be repeated as many times and as often as directed by the doctor. In addition, there are certain medications which the doctor has at his disposal to aid the improvement of circulation. All these directions constitute the modern medical methods utilized in the prevention of diabetic gangrene.

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MEDICAL NEWS OF THE MONTH

Painless Childbirth

An improvement in the technic of providing comfortable and painless childbirth, known as caudal anesthesia, in which an anesthetic is administered by injection into the lower tip of the spine, is reported in a recent issue of *The Journal of the American Medical Association* by Nathan Block and Morris Rotstein of Sinai Hospital, Baltimore.

The original technic, which was developed by Robert A. Hingson and Waldo B. Edwards of Staten Island, N. Y., involved the injection of a solution of metycaine, a cocaine substitute, into that portion of the lower tip of the spine where are located the nerves which transmit the pain impulses to the brain from the lower portion of the abdomen.

Block and Rotstein report that they have developed a means of determining whether the needle for injecting the anesthetic has been inadvertently inserted in the spinal canal or in the tissue just beneath the skin without entering the caudal canal.

If the needle accidentally entered the spinal canal and its membrane lining were sucked up against the tip of the needle, the withdrawal of spinal fluid would be prevented and there would be no warning of the misplacement of the needle, the two men explain. "In such cases," they say, "a fatal spinal injection intended for the caudal space could be administered. . . ."

Block and Rotstein use procaine instead of metycaine and a continuous gravity drip technic.

Refrigeration for Skin Grafting

Anesthesia by refrigeration of the areas from which skin is taken for grafting purposes is recommended "because it is simple, time saving and efficient," Lieutenant Harry E. Mock Jr., Medical Corps, United States Army, declares in *The Journal of the American Medical Association.*

"Refrigeration anesthesia for skin grafting opens a new field for the use of reduced temperatures in surgery," Lieutenant Mock says. "Two hours before operation, one or more uncovered ice bags are applied directly to the area from which the skin is to be taken. . . ."

Sprained Ankles

Immediate normal use of a sprained ankle and foot, where there is no fracture, almost irrespective of the type of local treatment definitely hastens recovery, Lieut. Comdr. Paul E. McMaster, U.S.N.R., declares in a recent issue of *The Journal of the American Medical Association* in a report on his observations in more than 500 cases. Uniformly best results were obtained by suppression of all pain in the injured part by injections of procaine hydrochloride, more than 200 of the patients receiving this treatment. More than 200 were treated with adhesive strappings of the ankle while still others were put to bed for cold and hot applications.

"Irrespective of the type of treatment," he says, "patients who returned immediately to normal activity and used and moved the foot and ankle improved much more rapidly than those who did not.

"Injection with 2 per cent procaine hydrochloride solution into the injured ligaments followed by normal activity gave uniformly the best results. These patients, following complete elimination of pain and tenderness by injection, continued immediate use of the part, avoiding only especially strenuous activity such as hard running or jumping."

Health of Young Workers

Pointing out that the trend for boys and girls of 14 to 17 years of age to enter industry is likely to increase at an ever growing rate as the war continues, *The Journal of the American Medical Association* says that the health of these young workers should be conserved.

"Protective health laws are the primary safeguards," *The Journal* explains. "Boys and girls should not be allowed to work in atmospheres which contain harmful dusts, fumes and gases. Young boys may be crippled by heavy manual labor or by work for long periods in cramped positions. Furthermore, information should be spread that boys of 14 to 17 usually do not possess the required skill or stability to permit them to operate dangerous machines. It must also be realized that farming is a hazardous occupation and that many accidents result from attempting to handle animals or farm machinery without adequate strength or training. Every effort should be made to strengthen the bodies of these young workers."

Detecting Nerve Injuries

A simple, accurate and practical method of mapping the areas affected by nerve injuries is described in a recent issue of *The Journal of the American Medical Association* by Curt P. Richter and David T. Katz of Baltimore.

The method employs the resistance of the skin to electrical currents applied by means of a small electrode. By means of this test the authors mapped the affected areas of skin in 10 patients with ulnar lesions (involvement of one of the nerves of the forearm and hand) of recent and of long standing which were produced by accidental cuts, intentional stabs, compression from fractures or by bomb and shell fragments.

Warning!

"The toxicity of carbon tetrachloride in cleaning solutions is still not as well known as it should be in view of the seriousness and extensiveness of poisoning which can result from the inhalation or absorption of this substance," *The Journal of the American Medical Association* warns in answer to a query.